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## PART I.

## ORIGINAL COMMUNICATIONS.

ART. IX.—*Reports in Operative Surgery.* By RICHARD G. H. BUTCHER, Esq., M.R.I.A., F.R.C.S.I., Examiner in Surgery in the Royal College of Surgeons in Ireland; Surgeon to Mercer's Hospital; and Lecturer on Clinical Surgery, &c., &c.

1. SUCCESSFUL EXCISION OF THE KNEE-JOINT.
2. SUCCESSFUL EXCISION OF A LARGE PORTION OF THE FEMUR.
3. ON FATAL BLEEDING IN PSOAS ABSCESS FROM ULCERATION OF THE CAVA.
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5. ON THE TREATMENT OF THE SUPPURATIVE CRISIS OF JOINTS BY FREE INCISION.
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CASE I.—*Excision of the Knee-Joint; recovery, with an admirable limb.*

I recur to the operation of excision of the knee-joint with a pleasure of no ordinary kind; its history is one of deep interest

to the inquiring surgeon. Established boldly by Park and Moreau, and that, too, by practical illustration amply afforded: nevertheless, by carelessness, mismanagement, and probably incompetency on the part of imitators, it was too hastily put aside, and for years the operation was never mentioned or reverted to except with obloquy. Better things, however, were in store for it: taken up again, and that recently, by one whose name is closely identified with all the improvements of modern surgery (I refer to Mr. Fergusson, of London), he, in his wisdom, skilled in all operative measures, thoughtfully weighed the arguments for and against this bold procedure,—the casualties possible to take place, the advantages likely to occur: the latter turned the balance. Though defeated and baffled at first, he was soon followed and supported by others, who trusted in his example, and success crowned these efforts. Never was a capital operation taken up so quickly, or practised so extensively, as that of excision of the knee-joint, within so limited a period as that since its revival. Surgeons seemed honourably to vie with each other in arriving at the truth, and making every fact known. I may faithfully attest this, because in the accumulated information contained within the two memoirs on excision of the knee-joint that I had the honour of laying before the profession, will be found the ready answers to each inquiry that I instituted from every practical and distinguished surgeon therein named.

In the papers referred to, and published in this Journal, several practical deductions were arrived at from the given premises, and it is with an innate satisfaction I reflect upon the laudatory manner in which my humble efforts have been estimated in the cause of conservative surgery.

The valuable hospital reports, in the periodicals of the day, sufficiently attest the great value of the operation, and it would be superfluous to dwell upon the several instances in which it has been performed during the past year. Though arguing in this way, I trust I shall be excused for laying before my readers the following case, which I operated on a few months ago. I hesitate not in doing so, because it affords many striking features confirmatory of my views, and because it yields me another opportunity of dwelling upon a few points that I would wish further to elucidate and expound.

Timothy Swift, aged twenty-seven years, a labourer, admitted into Mercer's Hospital April 8, 1857. *History.*—In February, 1854, the man was carrying a heavy sack of wheat; he slipped and fell to the ground; the weight crushed the limb.

His left knee suffered severe stretching and contusion, which confined him to bed for nearly three months; after this the joint was stiff, and performed its motions very imperfectly, yet he returned to his employment. Shortly after, a dull pain lurked in it, greater at some times than at others, and some swelling remained. In about seven months after the primary accident he tripped in jumping over a ditch, and violently wrenched the joint a second time, after which he was obliged to remain in the house for several days. A few months passed over, and again he endeavoured to earn his livelihood by employment; at this time frequent exacerbations of pain seized upon the part, and stiffness of the articulation increased. In this way he persisted in working on, but could not run or move the leg rapidly. Things thus progressed until about sixteen months before his admission to hospital, when he was violently thrown from a restive horse that he happened to be riding; the animal fell upon him heavily, bruising the left knee again; immediately after the accident the left leg and thigh swelled rapidly, and the patient was laid up, confined to bed for about six months. After this he was treated by several medical men, but with no marked benefit, when he came to Dublin, in September, 1856, and was subjected in several hospitals to the most appropriate treatment. Not obtaining relief, he became discontented, and placed himself under the care of a quack doctor, who took all the money he possessed, and then dismissed him with the pleasing consciousness that he could not be cured. On the date already mentioned he sought my advice, and was admitted to hospital. Though his general health was not shattered to any alarming degree, there were many symptoms that awakened in my mind an apprehensiveness of tampering any longer with a disease that was gradually, slowly, and surely undermining the healthy springs of life. The injurious consequences originating and set up from the local malady threatened, and that not far off, a more dangerous manifestation of their withering effects,—in few words, the management of the case required decision, promptitude, and judgment. The constitutional sympathy was evidenced by a rapid pulse, never below 100; impaired digestion by a capricious appetite, frequent nausea, often vomiting. The body was but little wasted, yet, on looking to the local changes, a very marked difference existed between the volume of the sound limb and that of the affected one. The right thigh measured in its circumference, at the widest part, 20½ inches, while the corresponding measurement, in the affected limb, was only 15 inches. The widest part of the calf of the sound limb measured



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11½ inches, while that of the left was only 9 inches. The outline of the joint was lost, and its configuration spoiled; a puffiness of the soft parts filled up each sulcus around it, so that its walls and boundaries presented rather a cylindrical form. The patella was movable; there was free motion of the leg in every direction; great lateral mobility; that is, on the leg being pressed one way and the thigh to the opposite side, an unnatural amount of lateral motion was permitted, only to be explained by the destruction of the interior restraining ligaments of the joint; flexion and extension, to a certain extent, were permitted; indeed extension was allowed nearly to the full, but flexion beyond a right angle induced the greatest torture: percussion at the heel elicited at once deep suffering and excruciating torture in the joint, so as to make the patient start with terror and alarm; there was no increased secretion within the joint, or marks of abscesses as having ever occurred. It was clear that the diagnosis pointed to thickening of the synovial membrane and ulceration of the cartilages, destruction of the head of the tibia to a greater extent than that of the condyles. All particulars considered, the case was by me considered perfectly suitable for excision.

On the 15th of April, 1857, I proceeded to operate after the following manner, the patient being placed under the influence of chloroform. I adopted the H-incision, the cross line passing beneath the patella; the flaps were with rapidity dissected back, and the shreds of the crucial ligaments spared by disease were divided, and next the lateral ligaments; in freeing the ligamentous attachments to the bones behind, the greatest precaution was adopted; all being separated to the extent required, I swept the knife around the tibia and the femur close to the attachment of the soft parts, and then took the saw bearing my name, and cut the bones from behind forwards. It is necessary here to lay caution on the operator in using the saw; he should ever remember the altered position of the limb, to facilitate the protrusion of the ends of the bones, and according to the angle of elevation must the direction of the blade of the saw traverse. The simple rule I would lay down for the correct execution of the section is this,—the blade of the saw must pass in a direction parallel with a line drawn in the transverse axis of the articulating surface; accordingly, this procedure was carried out; thus, when the limb is placed in a horizontal position, the one in which it is to be maintained for cure, the cut surfaces of the bones will be evenly together, no space will intervene between them behind or before; the wide surfaces oppose each other; all disposition to gliding one from the other

is guarded against, and the most favourable circumstances are insured for intimate union. In the published records of cases it will appear, that, in some instances, the surgeon has had to apply the saw a second and a third time, to make the bones meet; if this be so, I am then warranted in enforcing my advice. By section planned after this method, the condyles of the femur, with their connecting osseous bond, to the depth of a quarter of an inch, were removed, and a slice from the upper surface of the tibia, nearly three-quarters of an inch in thickness, was cut off. To warrant the removal of these parts I may just state, that the incrustating cartilages of the condyles were entirely removed; the head of the tibia was similarly affected, and in addition deep pits were excavated by caries in each condyle, to the depth of a quarter of an inch. This being effected, all the thickened and diseased synovial membrane was clipped away, and the disorganized fatty mass below the patella; not a trace of the interarticular cartilage remained; the patella was coated with lymph beneath, and appeared to have struggled healthily from the disease around; it was, therefore, suffered to remain. Thus, then, the accuracy of the diagnosis was established, and examination of the osseous surfaces pronounced them healthy. Three arteries which bled rather freely were next tied; the flaps at the transverse incision were brought together and maintained so by fine points of interrupted suture, and the lateral incisions were left open for the ready escape of blood and serum, the purging of the cut parts. The leg was with ease put into the straight position, and placed at once in the padded box-splint I had prepared for its reception; a splint was then laid over the anterior part of the thigh and the tapes fastened, sustaining upwards the hinged sides of the box; the foot was steadied by a footboard falling into the grooves within, and thus the leg was pressed upwards, so as to keep the divided osseous surfaces in contact; lint steeped in cold water was laid along the lateral incisions, and maintained accurately in position by the sides of the box when elevated. The chloroform acted admirably: though the man was at first thrown into some violence, yet, after the lapse of a few seconds, he was totally subdued, and slept unconsciously all through. Shortly after the anæsthetic was discontinued, he awoke quickly, and was unconscious of the operation having been performed. Thus, quite conscious, with the limb immovably adjusted, the man was removed from the operating theatre to bed, when he got a full draught of wine. Shortly after, he discharged his stomach, a not unfrequent consequence after the use of chloroform. This sickness should be watched for, anticipated on the part

of the surgeon; and, after emesis has taken place, the pallor, coldness, and collapse, can readily and entirely be removed by a full warm stimulant—none better than a hot tumbler of punch with an opiate in it. Such was administered in this case, and by me in many others, with the desired effect, persistent quietude of the stomach; to restore general warmth, heat should be applied to the limbs and body. In two hours after the operation reaction was fairly established, and the patient complained of pain; a general weeping took place from the external lateral incision, and also from the internal; the quantity was such as to call for interference to check it, and it was very simply done. The sides of the box were let down, and compresses of fine lint laid over the points from where the blood issued most copiously, and finger pressure maintained them in their places; all disposition to hemorrhage ceased by a perseverance in this mode of treatment for little more than half-an-hour; then gently the hands were taken away; a few additional pads were laid over each compress, so that when the sides of the box were again elevated, a gentle and equable support was more forcibly afforded throughout. Thirty drops of tincture of opium were given every third hour; and I ordered ice to be placed in the mouth to quench thirst. 7 P.M. No return of bleeding, and pain not considerable; reaction fully developed. 9 P.M. Pain very trifling, and dozed away; gave a tumbler of punch and thirty drops of tincture of opium, after which he slept steadily; though, before this, he had slight spasms and tendency to startings of the thigh forward; however, this was controlled by the anterior splint and the full opiate, which now completed the sedative influence of the drug.

April 16th. Had a good night, and slept with tranquillity, and this morning is much refreshed; pulse 104; tongue furred, with thirst; urine freely passed in quantity, yet skin hot; limb lying in excellent position, and exempt from pain; took some tea and toast for breakfast. 3 o'clock P.M. Continuing to feel comfortable; opium to be continued. 9 o'clock P.M. Free from pain, no uneasiness whatever in the limb; thirst alleviated by effervescing draughts in combination with the opium, and by the placing of small morsels of ice frequently in the mouth.

17th. Had an excellent night; pulse 100; skin still hot, but thirst diminished; full opiates every third hour throughout the day.

19th. Going on most favourably: the patient slept all night, he took his toast and tea for breakfast with appetite. Let down the sides of the splint, the external and internal alter-

nately, to soak up the fluids discharged from the wounds, which was quite practicable without stirring the limb from its posterior support. The full opiates to be continued.

20th. The patient slept all night without interruption, and this morning his pulse was down to 86, it is soft, yet not feeble; his tongue is clean, the thirst nearly gone, and his bowels gently moved, and urine passes in full complement; he took his breakfast with appetite. I let down the side of the box and soaked up purulent matter, which freely escaped from the wounds; placed dry linen over the pads on either side, but did not lift or disturb it from the surface upon which it rested.

29th. Since last report everything has progressed in the most favourable way; a slight fulness was perceptible towards the inner side of the lower third of the thigh; this, however, was effectually controlled after fifty-six hours' pressure of well-applied graduated compresses, gently directing the discharge from behind forward. The transverse wound is now quite healed, and the lateral ones discharging pus freely, which I cautiously removed each day as already specified, without lifting the limb.

May 5th. This day, for the first time since the operation, I lifted the limb from the box (twenty days after the operation), the anterior splint being firmly held to the limb by assistants, or rather the limb up to it; and renewed all the dressings. No soreness or excoriation of the posterior surface of the buttock, thigh, or back, neither was there any pointing of matter backwards, the lateral incisions affording a ready outlet for it as quickly as it might be secreted.

May 6th. Discharge greatly diminished; wounds quickly closing in; no pain; sleeps without an opiate now, and no tendency whatever to spasm; he eats and drinks freely. Removed to a fresh bed.

June 1st. Ever since last report gradually and steadily proceeding. The discharge has become very much diminished, and the lateral wounds contracted considerably; pressure on the patella gives no pain, and but little pus is forced out by pressure upon it; the leg and thigh are becoming rigidly connected; and pressure on the heel does not in the least degree elicit pain, a sufficient evidence that the change brought about at their junction is a healthy process.

It is unnecessary to continue the daily report: both the careful dressing of the part, the mode of treatment pursued upon the limb, and the dietetic rules prescribed continued to be the same, with but little alteration, up to July 2nd. At this period

a small abscess formed just below the patella; from it matter could be pressed out through the external lateral wound, but I cut short its route, and passed a knife into the abscess perpendicular to the surface; this allowed immediate exit to the contents, and at once almost the propriety of the measure was borne testimony to by the quick consolidation of the parts around, and the total dispersion of œdema and swelling. Now so healthily did the repair go on, and so effectually between the divided bones, that the patient could lift the limb *en masse* from the bed without the least fear. No yielding of the parts was consequent upon this trial, nay more, on taking the limb between the hands and moving the leg and thigh in a contrary direction, antero-posteriorly or laterally, not the least motion was produced between them, an efficient test of the stoutness and integrity of the combining medium, the bond of union. Shortly after this an abscess and sinus formed above the patella, and to the inner side, over the sheath of the vessels in Hunter's canal, the contents from it could be gently pressed towards the internal lateral wound, and thus a ready outlet afforded for its discharge; pads, compresses, and well-applied, broad, adhesive straps obliterated it in a short time with accuracy and precision. The thickening of the parts around, particularly in the vicinity of the patella, was quickly reduced by suitable bandaging from the toes towards the knee, and from the groin downwards, both meeting around and supporting the newly applied and engrafted parts. After each dressing of the limb it was again steadily fixed in my fracture-box.

The review of this case from first to last is most pleasing,—from the beginning to the end there was never any alarming symptom. I attribute the favourable issue to the following causes:—

1st. The judicious selection of the case. For, though the joint was irretrievably destroyed, past all hopes of repair, yet the bones were not diseased beyond their articulating surfaces, therefore too large a quantity had not to be cut away.

2nd. The operation was expeditiously done under chloroform; therefore comparatively little shock.

3rd. There was no hemorrhage; no persistent weeping from the wound permitted; therefore but little exhaustion.

4th. The wound being dressed in a special manner, the limb was at once placed in the box, which I have here figured, and the adjusted bones restrained from the slightest deviation forwards, backwards, inwards, or outwards. Moreover, by the adaptation of the foot-board, the leg was kept fairly pressed up against the thigh, which in its turn was sus-

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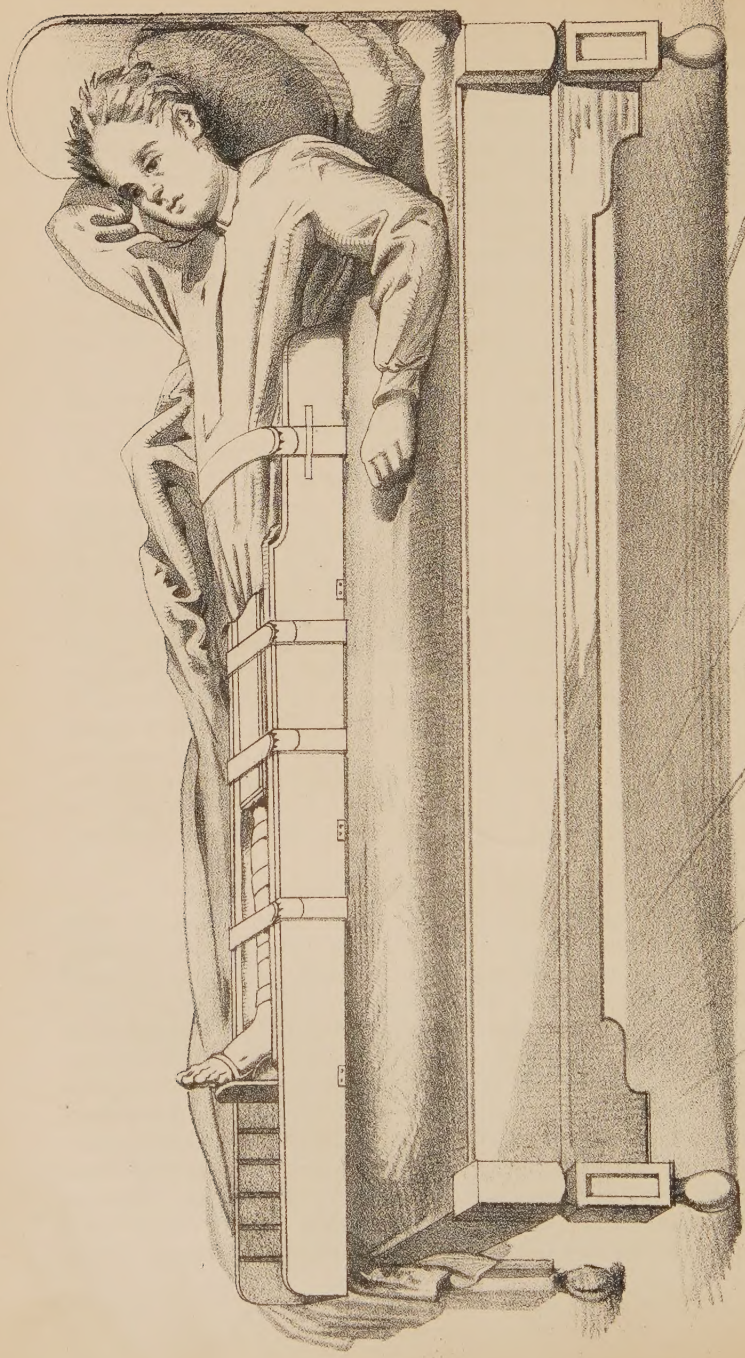

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tained in a contrary direction by the weight of the trunk, the proper axis being secured by the long arm of the splint resting parallel to and against the body. Now it should be borne in mind that this portion of the splint was not as yet lashed to the trunk by the web-girth, because during all this mechanical appliance the patient was insensible, under the influence of chloroform, and any pressure on the chest, so as to interfere with respiration during this tranquil sleep, not only would have been injudicious, but highly dangerous.

5th. The position of the wounds, each lateral one being placed well back towards the popliteal space, thus readily allowing a free exit for all secretions, and effectually guarding against all pouching in the ham.

6th. The quietude, the repose in which the limb was suffered to remain for several days after the operation,—the long period of three weeks having elapsed before it was gently and steadily lifted, after the manner described, from its bed; though prior to this time on several occasions the discharge was readily soaked up, without the slightest disturbance of the member, owing to the construction of the box. From the great facility afforded by it in the management of these cases, I shall offer no apology for representing it here. In my former essays I have dwelt upon its advantages, as well as alluded to it in the management of the case under consideration; its construction and its application having been so often alluded to, it is quite unnecessary to particularize them again. The sketch from which the lithograph has been taken was made by the able artist, Mr. Forster of Crow-street, and the entire character of the representation of my patient as he lay with this mechanical appliance upon him has been most faithfully portrayed.

7th. The full exhibition of opium during those days when wicked irritation might have been anticipated; the due exhibition of stimulants and nutritive diet, from the moment that the stomach would tolerate them at all to the termination of the cure.

The condition of the man at present (11th September) is all that can be desired: long since the box has been laid aside, and the limb is steadied by the application of a splint behind, as in my former case; the bones seem to be grown into each other; there is not the slightest yielding or motion between; it is a permanent union, and resists shocks; the most forcible percussion at the heel neither elicits pain nor motion; the patient is able to rotate the limb from the hip inwards and outwards, flex and extend it with ease and confidence. There

is a slight discharge from the wound on the inner side still, but this I have rather solicited, keeping it open as a drain by which any secretion, either of pus or serum, might readily escape. I have not permitted the man yet to walk upon the limb, though I have no doubt he could do so, and indeed he feels that he could do so if he tried; he lies upon the outside of the bed with his clothes on, and in a few days he will be walking about. The motions of the hip and ankle-joints remain as flexible as before the operation. The subject of these remarks is now as robust and as strong-looking as any man to be seen, and on contrasting the limbs as they rest side by side the amount of shortening is but very trivial. The degree of emaciation is not so characteristic now as before the operation. On the whole, the case is one with which I feel very deeply satisfied. I have casts taken before the operation, and recently since the man was cured; I also have preserved the portions of bone cut out; and all are lodged in my private collection.

Case II.—*Excision of a large necrosed part of the Femur, together with carious portions of the bone in its vicinity, and close down even to the articular surface; Recovery with an admirable Limb.*

Patrick Bourke, aged forty-six years, a powerfully framed labouring man, admitted into Mercer's Hospital, December 19, 1856. When eight years of age he got a severe hurt in the right knee, which was followed by very acute inflammation and confinement for a considerable time. After a tedious process he was restored, with a slightly contracted state of the hamstring tendons. He recovered in this way, and remained free from annoyance, being able to walk long distances without either pain or consequent suffering of any kind. Eleven months before the above date he got "a blow of a stone" on the outside of the lower end of the right femur, a little above the knee, and from the effects of this he was laid up in one of the poorhouses for a period of seven weeks; at the end of this time he was dismissed, and struggled on, suffering great hardships and privations from poverty, owing to the useless condition of his limb: ultimately his sufferings were so great, and his capacity for doing anything so uncertain, that he sought surgical assistance in hospital, May 1, 1856. Previous to this, abscesses had formed on the inside and outside of the joint, and burst, and pus flowed freely even a very short time before his admission on the latter date. Soon the opening on the inner side healed, but the external continued to discharge through the aperture; naked bone could be felt; rest and

quietude and suitable management allayed the inflammation, and he returned home about the middle of June. However, in a short time his quietude was broken, and his sufferings were greatly augmented, so that he came to Dublin and placed himself under my care. At the time when I received him into the house, he was quite unable to walk or rest the limb upon the ground, owing to the sharp tensive pain above the joint; by the aid of a crutch and stick he was alone enabled to move, and it was a sad sight to witness the efforts which he was compelled to make to drag himself along.

He was greatly emaciated; sweating and loss of appetite enfeebled him, while a profuse sanious discharge escaped from the part, characterized by intolerable fetor. The aperture by which this fluid flowed was situated about three inches above the articulation, and on the outer side of the limb; it was a puckered fistulous track, upon which pressure made but little effect; the structures around it were dense, elastic, discoloured, and strained. On introducing a probe I quickly came upon diseased bone; the instrument, as it were, went all through a roughened osseous aperture, and deeper again struck upon an irregular sharpened piece, projecting towards the upper angle of the popliteal space. The probe being curved, and again passed in rotatory movement, made its point traverse freely in at least two-thirds of a circle, proving that a cavity within the irregular osseous entrance absolutely existed, and that the interior of the femur at its expansion was in a state of advanced decay. The limb, in its lower third, was greatly augmented in bulk, measuring nearly twice the size of the left one.

As yet the joint was unaffected; as yet the vessels in the ham were uninjured. It appeared to me that the time had arrived when something ought to be done; when operative surgery should extend its assistance towards cutting short irritation and averting impending peril; at the same time conscientiously to guard against maiming, and endeavour to preserve a limb efficient for the purposes of progression—in a word, to guard against mutilation.

After thoughtful consideration of the case, I determined to cut down upon the part, and act according to circumstances. Thus I proceeded, and after the following manner:—On the 18th January, 1857, an incision, fully from six to eight inches in length, was made on the outside part of the lower and middle third of the thigh; it was parallel to it, the sinus marking somewhat the centre of the wound; it was laid open in its entire track; the tough and gristly texture matting the parts required

considerable pressure of the knife for its division; after a few moments the bone was laid bare, a small portion of the exterior was carious, and, as before recognised, led into a chamber of a considerable size, not only involving the lower part of the shaft, but its expansion into the condyles; a long piece of the shaft, about two inches, started downwards and backwards, and was resting against the popliteal vessels; below this the bone, as previously mentioned, was chambered out by caries. After considerable difficulty the solid displaced piece of the shaft was chiselled and prized out; the force requisite to take it from its bed was very great, so as seriously to threaten the fracture of the limb by tearing through the reparative medium abundantly thrown out on the inner side and in front of the diseased bone. However, it was fortunately removed without this casualty, and all the carious part likewise scooped out with the gouge. Let it be remembered that no bone forceps could cut through the hard piece of bone; no saw could be brought to bear upon it, and the great vessels were in immediate relation with it; therefore it was by cautiously prizing it from its position that its removal was effected. I shall remark here, that by *the free exposure of the diseased part* all the steps of the operation were with accuracy accomplished. There was a peculiar advantage in this rule as applied to this special case, for by rudeness or mismanagement on the part of the operator the great vessels behind might very easily have been injured; and particularly I may speak on the fears to be apprehended from injury to the popliteal artery, because I have been in the ward of the hospital when it gave way from the extension of ulceration in the parts around to its own coats, disintegrating its continuity, and causing copious effusion of blood. For further elucidation, I shall append the history of this case, and the way in which I tied the vessel, to these Reports in Operative Surgery.

Several branches, long inosculating ones, sent down from the external circumflex, had to be tied, both immediately after the primary incisions and after the operation was accomplished, when reaction had fully set in, and by its force projected the feebly retracted vessels. The hollow of the bone was filled up, and the edges of the wound in the soft parts kept separate with dossils of lint soaked in oil; and the entire limb steadied on a splint placed along its posterior surface, and maintained so by suitably applied bandages. Quickly after this tedious operation (through all the stages of which the patient was kept in profound sleep by chloroform) he rapidly became conscious on a discontinuance of the anæsthetic

agent. He was calm, and quite unconscious of the severity of the measures which it was imperative to put in force and to execute. On the patient being removed to bed, the entire half of the thigh and upper third of the leg were enveloped in a warm stupe-cloth, surrounded with oiled silk, and shortly after, wine and opium were freely administered until night.

I saw him at 10 o'clock P. M., and he was composed, awake, but not suffering from pain; his pulse was a little accelerated, but neither tremulous nor unsteady. On the following morning he was wonderfully quiet, free from pain, and reported as having had some refreshing sleep. He took his breakfast, and I saw him at 9 o'clock A. M.; his favourable condition greatly impressed me; ordered to be liberally fed with animal diet, wine, &c., and opium, a grain of the powder every third hour.

18th. Condition most favourable; had sleep; pulse quiet, a little accelerated; urine in full quantity, and the man desirous for food; chops, wine, punch, and opium, freely given.

25th. Going on most favourably; discharge freely established, and quite healthy; regimen and opium as before.

February 12th. Granulations abundantly filling up the chasm; the discharge healthy, indicative of their character, with the local improvement; it is the constitutional evidence of repose, with but little change, all being gradual, progressive. Things went on in a steady way to perfect reparation. On the 25th of February I have it reported that the larger cavity is filled up with firm, dense structure, to the touch elastic, springy, not prone to bleed unless undue violence be exerted; the discharge is only commensurate to the healthy granulations around, and perfecting the repairs—finishing the work.

April 14th. All nearly healed; scarcely a drop of matter; motions of the knee perfect as ever. Into the small sinus yielding the discharge, a solution of nitrate of silver was carefully injected, with the happiest result. After the third application the entire track was sealed up; granulation shot into granulation, and union perfected. A few days hence the part was skinned over, and on the 28th the man was up and walking about, with but little halt or inconvenience; assisted by a stick, he made excellent progression, though now for the first time. On the 6th of May the patient was able to walk about without any assistance from stick or crutch; he suffered no pain in any movement; and I may now refer to the condition of the joint, the motions of which were not infringed upon by the violent measures practised for the exsection of the necrosed and carious bone.

The man was discharged from the hospital with an admira-

ble limb, retaining its full length, firm and unyielding, with almost perfect motion of the knee-joint. In this instance we have portrayed a striking example of the power of conservative surgery to benefit man, when carefully applied. Emaciated in frame, broken down constitutionally by irritation, the patient must have succumbed, if the source of this pollution of the springs of life was not counteracted. One of two things presented: one of two things should be adopted, executed,—amputation of the limb, or excision of the diseased bone. The peculiarity of the case, the projecting piece of dead bone against the vessels, hastened the decision, demanded promptitude. Weight is added to this great question by the following remarkable case, which vividly rested in my memory, as a practical illustration for guidance, and which occurred in the practice of one of the most distinguished surgeons in this country. I speak of William Henry Porter, Professor of Surgery in the Royal College of Surgeons in Ireland, whose ability and whose power are fully appreciated and admitted by all. The case to which I refer is published in the former series of this Journal[a]. It is headed, "Aneurism in a case of Necrosis—Death from Mortification and Hemorrhage." A reference to the case will well repay the reader, and I would warmly commend it to his notice, particularly if he be one of those cautious inquirers after truth; and as a simple meed of justice I would record my impression of the great pathological value of every opinion given by the great surgeon to whom I refer. This I am convinced of, that the stamp of a highly cultivated and matured judgment is upon all his writings. The point to which I wish to refer is the serious consequences that may follow the dislodgment of a sequestrum from its bed. It is well illustrated in the published report by Professor Porter; the "dissection" of the case is thus given:—"On opening the popliteal space, it was found filled with thick grumous clots, extending up as high as the lower third of the femur, in contact anteriorly with the bone, and with something that appeared to be part of the sac, but whether of an aneurismal sac, or the cyst of a former abscess, could not be determined. An opening existed in the popliteal artery, a little below the spot where it enters the space. The thigh-bone was found diseased in its lower half, being considerably enlarged, its surface rough, and a large portion of the posterior popliteal aspect destroyed, so as to permit the introduction of the fingers into a large cavity within; the edges of the

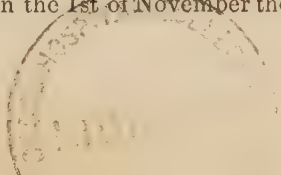
[a] Vol. v. p. 190. 1834.

bone on each side of this opening were thick and very full of rough sharp points; in the upper part of the excavation the sharp point of the sequestrum was discovered, movable and accurately corresponding to the aperture in the artery, which it evidently seemed to have occasioned. The knee-joint filled with a yellowish serum, unlike ordinary synovia; its capsular ligament thickened. The cellular tissue of the entire thigh filled with a reddish serum."

In a former Number of this Journal (November, 1854), under the head of Reports in Operative Surgery, I detailed a case where I had to remove nearly half the lower jaw, owing to the sequestrum starting from its bed, and occasioning from its new position such an interference with the functions of respiration and deglutition as to endanger life. In reference to the point of fatal hemorrhage being occasioned by the irritation of carious or deadened bone, on the coats of a large blood-vessel, I shall relate one I believe to be unique in its character and details. It is the following:—

Case III.—*Fatal Hemorrhage occurring in Psoas Abscess, from the roughened Vertebræ resting against the Cava and producing Ulceration of its Coats.*

This case was in Mercer's Hospital, under the care of my distinguished colleague, Mr. Tagert, Senior Surgeon to the institution, and occurred many years ago. I have to refer back to my case-books for its report, so far past even as 1846; but its value is not lessened, for the report is perfect. I made the post-mortem myself, and I possess very beautiful drawings and casts of the changes produced. There were many points of interest about the case, independent of its peculiar termination. The Report says:—The child was six years of age, admitted on the 26th of October, 1846; name, Anne Kelly. She had been considerably indisposed before admission; at this time there was a large swelling in the upper part of the right thigh; two inches at least intervened between the upper margin of the tumour and Poupart's ligament; the swelling presented an elastic feel, and was considered by some to be a fatty tumour; there had been no shiverings or symptoms for a superficial examination to warrant the supposition that it was an abscess; however, on an exploring needle being introduced, matter flowed, and then a free opening was made into it, and the purulent fluid escaped in large quantity. It was clear now that it came from above, and that most likely the spine diseased was the cause. Yet, on external examination, little pointed to this direction. On the 1st of November the child was covered



with a peculiar form of *miliary* eruption. I have often seen it occur since, after operation, but do not think it has been noticed by authors; it generally subsides, and quickly, after two or three days. The symptoms gradually abated until the 12th of November, when there was a profuse discharge of watery fluid, at first tinged with blood, afterwards more closely dyed with it, of a black colour; whenever the pressure was removed from the surface of the sac it rushed out with immense force; from this discharge she sunk before night. I have in my collection a beautiful cast of the limb previous to the abscess being opened. It is numbered No. 89 in the Catalogue, and this short Report attached:—"Patient, a girl aged six years, of well-marked scrofulous diathesis; fluctuation in the tumour was indistinct, and it had been mistaken for one of fatty origin; there was no constitutional symptoms indicative of the formation of matter: the diagnosis of its being abscess was arrived at from accurate palpation of the part and the most educated sense of touch." The post-mortem appearances are likewise represented in a faithfully coloured cast, taken from the parts after dissection, thus described, cast No. 94:—"Sixteen days after the sac was opened hemorrhage set in; at first the discharge was tinged with blood; in a few minutes dark blood rapidly issued from the sac through the external aperture; and in a few minutes more the child was dead. The cast shows the condition of the parts eight hours after death. The walls of the abdomen being reflected, and an incision carried through Poupart's ligament down along the thigh, as far as the junction of its lower and middle thirds, the following appearances, as presented in the cast, were observable. The peritoneal cavity contained about two ounces of watery fluid tinged with blood; the caput cæcum, and ascending colon, were lifted up from the right iliac fossa and lumbar region by a large coagulum (as seen in the cast) of dark blood, very firm to the touch; this filled the entire iliac fossa, extending upwards within an inch of the origin of the psoas muscle, and downwards along its course beneath Poupart's ligament, when it seemed to bifurcate; one branch of the coagulum passed deep with the psoas tendon, and then expanded so as to fill up the entire sac of the abscess in the thigh; the other coursed comparatively superficial, and lay to the inner side of the sartorius muscle, between it and the femoral vessels, which lay to the inner side and supported on the upper surface of the sac; this division of the clot did not pass down lower than where the sartorius crosses the thigh. The source of the bleeding was from a small ulcerated opening, not larger than the size of a goose-quill,

longer in its transverse axis, in the inferior vena cava, and placed about half an inch above the point where it receives the right iliac vein. The opening in the cava was at its posterior surface, and somewhat to the right side; it was irregular and slightly thickened; while, leading from the margins of the aperture, about four lines to either side of it, were striæ passing up and down, and confirming by their arrangement the opinion of Bichat and Meckel as to the longitudinal fibres of veins. On close inspection of the spine the intervertebral substance between the third and fourth lumbar vertebræ was entirely destroyed, and the lower margin of the body of the third, which was completely carious, projected by a sharp, rough margin, about a quarter of an inch beyond the upper surface of the body of the fourth, which, as it were, was bevilled off from behind forwards and downwards; the projecting portion rested against the vein, and, no doubt, caused the ulceration in the vessel. The piece of bone absolutely projected into it. Between the bones there was a large quantity of most offensive dark pus, which burrowed beneath the remains of the psoas and iliac muscles on the right side, making its escape in that direction. It is also curious, in connexion with this case, that such extensive disease of the spine should have escaped detection, and have given no marked evidence of its presence."

Enough then: I think I have given abundant proof why the surgeon should be apprehensive of danger when deadened bone encroaches upon the walls of even healthy vessels; and, moreover, that his judgment will often point out the propriety of removing the offending body.

In connexion with this subject I shall mention one more most remarkable case, which likewise occurred in hospital practice, where the popliteal artery gave way by slough, owing to extension of destructive inflammation from a diseased knee-joint, and in which I had to ligature the vessel.

Case IV.—*Ligature of the Popliteal Artery in a case of disease of the knee-joint, with extension of unhealthy inflammation from it to the vessel, producing sloughing of its coats and violent hemorrhage.*

John Lynch, aged twenty-eight years, admitted into Mercer's Hospital, under my care, June 16, 1854. Six days before his admission he was carrying a sack of wheat, and in trying to go up a flight of steps he sank under the weight, and his limbs were violently flexed under him, the sack falling down on the left knee in this position. The man experienced great

pain at the time, and was carried home; he remained confined for some hours, but again tried to walk upon it; in twenty-four hours after the accident the joint became greatly swollen, and so painful that he could not stand at all; sleep forsook him; his appetite was gone; and he was admitted on the above date. The patient's condition was as follows:—The joint was immoderately distended with pus; great redness prevailed over and around it, particularly along its inner and anterior walls, and from these aspects extended down the leg and up the thigh; the colour was a dusky hue; there was great œdema, particularly below the articulation over the forepart and inner side of the tibia; great pain was evinced on handling the part, and deep pitting upon pressure; there was no doubt that the intense inflammatory action of the synovial membrane terminated in the secretion of pus. The lateral wall of the joint was bulged out, and the patella floating upon it. For satisfaction I introduced a grooved needle, and pus rested in it; a free opening was then made in the long axis of the joint and on its inner side, and pus and synovia escaped in abundance. The limb was steadied upon a splint, and every means adopted to support the patient and diminish irritation. On the following day the report was favourable,—that he slept well the entire night; the tongue was moist and clean, it was soft; he had no headach; the local appearances were also benefited, the swelling, redness, and œdema diminished, and the pain on handling the part greatly lessened. Owing to the constrained position, the patient was not able to pass water, so I introduced a catheter and drew off fully a pint of urine,—satisfactory evidence that the kidneys were performing their functions. The local treatment was persevered in, that is, keeping the affected joint and subjacent parts enveloped in warm stupe-cloths, with oiled silk outside them,—in other words, in an uninterrupted vapour-bath; and guarding against all motion by the application of a splint behind; the occasional application of leeches to any painful point, in relays, so as to keep up a gentle drain from the part. Mercury was given in combination with opium; the former to produce salivation, and by its salutary influence check the extension of inflammation by altering the action of the capillaries, and thus arrest the progress of ulceration in the cartilages, which there was too much evidence to doubt had already commenced. The opium was given to steady the action of the mineral, and likewise to alleviate pain, to subdue irritation, to secure sleep.

June 19th. Though he slept uninterruptedly, his pulse was feeble and intermittent; he had slight sweat; his bowels were freed three times. Some of this disturbance was traceable

to the action of the mercury, for now ptyalism was gently established. The limb was paler, not nearly so much swollen, but a fixed pain rested over the internal lateral ligament; a few leeches were put on over the affected parts, the stupes continued, &c.; large doses of quina in combination with opium were given with decided benefit. Nutriment, such as rich broths, eggs, &c., were given as rapidly as assimilated.

21st. A small abscess formed over the upper part of the tibia, which I opened, and let out about an ounce and a half of pus; tenderness over the joint greatly diminished, but deep pain, referred to the ham, which was increased upon pressure.

23rd. An alarming diffuse patch of inflammation appeared over the left chest, and a tendency to stripping over the sacrum; I applied creasote with a camel-hair brush over the chest, and the strong solution of nitrate of silver to the back. A second application of the creasote, as if by magic, arrested, removed the inflammation, and left the skin corrugated and pale.

26th. In every respect better, except the ham, where abscess evidently is forming. On this day opened another small circumscribed abscess on the inner side of the knee.

29th. Abscess in the ham perfectly developed; cut down upon it and let escape two to three ounces of pus. Medical treatment as before, and nutriment and wine as freely given as the stomach will bear.

July 6th. Suddenly a remarkable change set in: the joint swollen, with the integuments of a dusky-red colour, characterized by diffuse boggy inflammation. Pulse changed, intermittent, &c. Proposed now amputation as the only means of saving life; but it was rejected both by the patient and his friends.

7th. Matters stationary, and again pressed to remove the limb, but not consented to.

8th. The entire thigh, in its lower third, participating in the mischief, being engorged and edematous. So great was the swelling, that the thigh now measured twenty-four inches in circumference, when a corresponding measurement of the sound limb gave only sixteen.

From this period, up to the 9th, there was a manifest amendment. His sleep returned; the nausea ceased; the respiration became more steady; the pulse lost its intermission; and the tympanitic belly was relieved: in short, all the constitutional derangement was mitigated in a most remarkable manner. At the same time the limb had lost much of its tension and redness, and the destruction ceased to spread.

10th. The very unusual occurrence of terrific hemorrhage

took place, when I had to tie the popliteal artery. It happened in this way:—At half-past 3 o'clock P.M. on the 10th, being summoned to the hospital previous to an operation for strangulated hernia, and being with several gentlemen in the next ward to where this man lay, suddenly the nurse screamed out that he was bleeding to death; a student, who was in the room at the time, quickly ran and seized the limb high up, making effectual pressure on the femoral artery; an assistant took his place, and I at once perceived, from the quantity of blood lost, its character, and the source from which it issued, that the popliteal artery must have given way. Under this conviction I at once proceeded to secure the artery. It was a difficult task: the patient was never taken from the bed in which he lay; he was rolled over gently upon his left side, and the inner and posterior surface of the limb exposed by an incision fully six inches in length, along the inner side of the femur in its lower part; the vessel was reached. I grasped it at the rent, and freed it extensively from the parts around; and, having done so, applied a ligature above and below the opening, the ligatures being fully two inches apart, and the object being to get, if possible, a sound portion of the vessel. All bleeding ceased immediately after this proceeding, which was perfectly effectual as an operation, for not a drop of blood flowed after the vessel was compressed in the groin, and not a teaspoonful was lost in the operation, and none flowed after the securing of the artery. Stimulants were then freely and abundantly given, with rich broths, jelly, milk, eggs, &c.,—everything most suitable towards the formation of blood. He rallied wonderfully after the great loss, so much so that in an hour his pulse was considerable; heat was generated, and I looked for his recovery by care and management. The shock of the rapid though short hemorrhage, was too much for a habit already worn out by irritation, &c.; and though he rallied, it was only like the brilliant transitory flickering of a lamp before it finally goes out. He died eleven hours after, though not a teaspoonful of blood was lost after surgical interference had staunched the flow.

On post-mortem examination and careful inspection of the parts, the joint was found opened up behind, with the results of ulceration destroying all in its track; not sparing the cartilages within, it seized upon the fibrous textures behind, and involved the artery in its destructive course, and thus the hemorrhage; the coats of the vessel had absolutely sloughed to the size of a pea, a portion of the circumference of this killed part was being dilated, and thus the rent created that yielded

the alarming and fatal bleeding. It was now rendered manifest that amputation at the time recommended and pressed for was the only chance of safety. The entire joint was disorganized, its cartilages eaten away; gangrene of the tissues around. Excision of the joint would have been hopeless; amputation dexterously performed, even at this late time, might have saved the man.

That the free incision into a joint, when suppuration is established within, is an admirable practice, *in many cases, I have no doubt;* and though in the previous one it did not arrest the destructive mischief, yet I have seen enough of it to be convinced that it is an expedient most suitable, and to be extolled; it has its place,—so has excision, and so has amputation. On the judgment of the surgeon will rest the applicability of one or the other. As an evidence of the advantages to be derived from free incision of a joint which has suppurated, I shall relate the following case, and dwell upon its successful issue.

Case V.—*Severe Wrench of the Ankle-Joint, terminating in suppuration within its cavity, and associated with diffuse inflammation extending even as high as the knee, treated successfully by free incision.*

Myles Tobin, aged eighteen years, was admitted to Mercer's Hospital, June 14, 1855. When running in a field, his right foot got entangled in a hole in the ground, and he fell sideways, twisting violently the right ankle; he nearly fainted, the pain was so acute, yet on the foot being pulled, and having rested for a time, he was enabled with assistance to walk home, a distance of fully a mile and a half. On the following morning the joint was stiff, but he again went out, being carried on a car; soon he got down and made the effort to walk, but was suddenly seized with "a terrible pain" in the joint, and fell to the ground,—so acute was it in its nature that he screamed loudly with his suffering, and had to be conveyed home. Two days elapsed before being brought to hospital, during which time stupes, rest, and aperient medicine, were had recourse to; and on the above date he was admitted, as follows:—The entire foot greatly swollen, intensely red, and severe pain on the slightest motion, referred to the tibio-tarsal articulation. The poor young man cried hysterically, being pale and worn out from want of sleep and food. A number of leeches were placed about the joint, stupes applied, a calomel bolus given, and a full opiate at night.

15th. No relief; and the joint being puffed out conside-

rably from the formation of matter, I laid it open freely in front, and nearly a pint of pus flowed away. My able colleague, Mr. Tagert, was standing by, and approved of the practice, after which the limb was steadied in a fracture-box, and the part surrounded with warm stupe-cloths. Patient slept soon after for six hours without awaking.

On the 18th matter formed above the joint, in front of the tendo Achillis; I cut down upon it, dividing the layers of fascia, and liberated it; great relief followed almost immediately; opiates freely administered, stimulants, and support.

It was very remarkable in this case how rapidly abscesses formed all through the limb; the one that I had just opened was found to extend absolutely as high as the knee-joint. By properly applied pressure with pads and bandages from above downward, it discharged its contents through the opening which I had made nearly twelve inches lower down, proving at once the rapidity with which disintegration of tissues takes place in such cases, and the urgent requirement of early and free incisions.

13th. An abscess formed on the dorsum of the foot, which I freely opened: and it is worthy of remark in the management of these cases in my hands, that I do not disturb the pads, bandages, &c., for several days, always allowing a free exit for any discharge, the apertures made by the surgeon or otherwise being invariably left uncovered, and thus the secreted fluids allowed to drain off.

19th. The case appeared very unpromising, and amputation loomed in the distance, yet I persevered, and on the 30th the report states that he went on improving: all sinuses healed, abscesses shut up, and the discharge from the joint incision very trifling. Constitutional irritation allayed; he sleeps and eats, and is getting fat.

August 11th. Wound in ankle-joint all healed up, as also the lengthened sinuses and abscesses throughout the limb; gentle motion of the ankle-joint has been persevered in for the last few days, and it is astonishing how nearly it has been restored to its perfect functions.

On the 28th of October he left the hospital, able to walk upon the limb, without either halt or impediment. More than two years have now passed by, and I may mention that a few days since I have seen the young man, and he is working at his trade, without either halt or impediment.

Case VI.—*Excision of a large portion of the anterior wall and sides of the Tibia in its upper third, close to the articulation. Recovery with an admirable limb.*

The following is the history of a case in which I cut out a large portion of the upper third of the tibia, that is, in its anterior wall and sides, saving the healthy articular surface of the bone, and preserving a limb free from *mutilation or deformity*. The patient was a young gentleman aged 20, who for some time in London lived rather irregularly, contracted venereal, and shattered his health. Two years previous to his application to me he had marked secondary and tertiary symptoms, sore throat, pains in the bones, &c.; though his annoyances were very great, his chief one centered in an enlargement and abscess on the forepart of the right leg in its upper third; an abscess formed here, and it burst, discharging matter and blood. This crisis did not check the mischief, for an abscess formed in the ham, and became diffused throughout the limb. In July, 1856, he was brought up to town for my advice, amputation being spoken of as the only chance of saving life; the friends, however, would not submit, and they removed him to Dublin. When called in at this time his health was terribly broken up; pulse 125; he had no sleep; no appetite, and constant sweats,—in a word, he was reduced to the lowest state. The condition of the limb was as follows:—The upper part of the tibia was greatly expanded; the knee buried in swelling, or, in other words, its outlines destroyed; matter filled the ham, and extended to some distance up the thigh and down the leg; there was great tension of the parts, and the lower portion of the leg and foot were swollen with œdema; an opening corresponded to the most prominent part of the expansion of the tibia, and from the irregular aperture streamed out most offensive copious sanies. On introducing a probe, diseased crumbling bone could be detected, at least two inches deep, and about three inches below the upper articular surface of the tibia; the knee-joint was not involved, though all the soft parts around it were thickened and matted together.

The treatment I adopted at this period was the following:—Free division of the soft parts over the bone, to relieve tension; free division of the fascia; closing in the popliteal space, to allow the free exit of matter; compresses and bandages were applied so as to obliterate the several sinuses. Bark and acids, and opiates, were given to improve the appetite, to check sweats, to allay irritation, and procure rest; after-

wards, full doses of iodide of potassium and cod-liver oil. The most nutritive diet, fresh animal food and wine, was freely given; and at the end of eight weeks his condition was so much improved, and his limb so altered for the better, that I sent him back to the country to pursue the same constitutional treatment; and, putting off for the time any operative interference with the diseased bone, I argued that, when all irritation had been subdued, now that all the sinuses in the ham and leg were obliterated, the change to the country air, &c., would hasten his amendment, and render him in that state best fitted to undergo any operation I might think expedient. According to my wishes in every way, these directions were carried out. The young man returned to the country; for a time he rapidly and in a marked way improved; but soon this salutary effect was checked; he ceased to be benefited; his general health began again to suffer, and he was brought up to town.

On the 20th of January, having made a very careful examination of the case, I decided upon cutting out the carious part of the tibia; it was limited to the upper third of the bone, and extended to within about three-quarters of an inch of the articulation; the motions of the knee were perfect, being greatly restored since the period of my former attendance. On introducing a curved probe through the aperture in the tibia, it moved up and down freely; the bone broke down readily on its application; the entire circumference of it was greatly expanded, and the interior was hollowed and softened. I decided on excising all the diseased part, and in consultation Mr. Cusack agreed with me in the propriety of the measure; and on the 23rd I executed it in the following way, assisted by him, Dr. Bevan, and others:—The patient being fully under the influence of chloroform, the soft parts over the diseased bone were freely incised in the long axis of the limb to about six inches; they were freed from the bone, and drawn by retractors to either side; the carious and expanded bone was trephined in two places, at a distance of three inches from each other, and the intervening piece chiselled away with gouge and mallet; so likewise was the interior cut out, upwards, close to the articulating surface, and downwards for about three inches; the posterior surface of the bone was hard and firm, and healthy, while the anterior part and sides were softened, carious, and diseased; thus the posterior wall of the bone preserved its length, its integrity, behind. Blood flowed at first rather freely, but soon ceased to give trouble, and the steps of the operation were conducted steadily and considerately. All

the diseased part being taken away, the wound was dressed from the bottom with lint soaked in oil; the patient was replaced in bed, the limb resting upon its outside on pillows; the entire knee-joint and two middle thirds of the leg were enveloped in warm stupe-clothes, surrounded with oiled silk; shortly after, wine was administered, and a full opiate given. At 11 o'clock P.M. he was lying composed, not suffering pain; he had some quiet sleep, and had partaken of light food.

26th. He slept well all night, and took his breakfast with relish. I removed the lint from the wound, suppuration being established; going on most favourably. It is unnecessary to dwell upon the daily report of this case; as, from the time of the operation up to the present (August) it has progressed most favourably; granulations sprung up freely from the cut-out hollowed parts; they assumed a more firm character, and now the entire chasm is nearly filled up with solid dense structure. A small portion remains open above, which as yet has not been incorporated in this solid bond; it yields a discharge, but so trifling as to give little annoyance, and so manageable as to be dressed by the patient himself. No doubt, a lengthened time has passed over (several months); but what is the condition of the patient now? what has been gained? Why, from being a puny, miserable, dying young man, emaciated to an extreme degree, he is grown into a large, powerful man, his limbs and body so augmented in dimensions, that all his former clothes had to be thrown aside, discarded. His countenance is changed from a sinking, haggard expression, to one of joyous health and satisfaction. The limb, from being a wasted, discoloured appendage, misshapen with œdema, is now well-formed, solid, and keeping pace in bulk with the sound one. No more sinuses, no more fetid, stinking discharges, no more fear in its movements, but, on the other hand, all the watchfulness of the patient is required to prevent, at an unguarded moment, his standing upon it. There is an innate consciousness, appreciated by the mind, that the part is capable of performing its functions in progression; indeed, he has tested it in this way and it was efficient; however, for the present I have prohibited using the limb, or making any attempt to walk upon it, and shall do so until all be permanently healed. The functions of the knee-joint are preserved in all their integrity, and the motions of the hip and ankle are as perfect as ever. This young man moves about with great facility by the aid of crutches, and he is threatening every day to throw them aside altogether.

The operative measures adopted in this case were perfectly consonant with the improvements of modern surgery, and the issue of the case, so far as it has been revealed, is most instructive and encouraging.

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Art. X.—*On Cartilaginous Tumours of the Upper Jaw.* By Dr. Oscar Heyfelder, Private Lecturer on Surgery and Ophthalmic Medicine in the University of Munich; Member of the Academy of Naturalists at Breslau, and the Academy of Surgery at Madrid; of the Medical Societies at Vienna, Paris, Leipzig, Munich, Strasburgh, Brussels, Erlangen, Valencia; of Legal Medicine in Baden; and of the Surgical and Anatomical Society at Paris.

Malignant and benign tumours of the jaws are very frequent, and often require operation. One of the less frequent, though not so rare as Mr. Paget[a] seems inclined to think it, is the *cartilaginous tumour*, or *enchondroma.*

Among 450 cases of diseases of the superior maxillary bone I found 74 cases of carcinoma; 48 of sarcoma, &c., and only 8 cases of enchondroma.

This tumour originates either within the maxillary sinus, or within the substance of the bone. Usually it increases slowly, seldom very quickly, and it sometimes remains stationary. If removed, it commonly very soon returns.

Cartilaginous tumours are usually of a spherical or broadly oval form, with smooth and even surfaces, though presenting more or less knobbed, or uneven hill-like elevations and lobes. If cut through, they crepitate under the knife; the interior is white, bright, hard, and consists of a homogeneous mass, or is formed of an aggregate of little tumours of different sizes, held together and surrounded by strings of hard, white, fibro-cellular tissue. The cartilaginous mass is not always homogeneous, but sometimes contains soft, or else osseous or calcareous grumous parts. The cartilage of the enchondroma simulates all sorts of physiological cartilage, and, like all enchondromata, those of the upper jaw are simple or mixed[b]. The former exhibit cartilaginous cells and a homogeneous or striped substance; the mixed enchondroma is combined with different

[a] Paget's Lectures on Pathological Anatomy, vol. ii. On the jaws these tumours are, I believe, very rare.

[b] A. Foerster: Handbuch der allg. pathol. Anatomie, Bd. ii. p. 122.

elements, especially with fibrous tissue, with cancer, with vascular growth, &c.

If enchondromata originate in the antrum, the periosteum, rich with glands[a], is usually their point of departure. They may have existed there long before the patient becomes aware of their presence, and it is not until they touch the walls of the antrum that they will produce morbid symptoms, as other tumours in the same situation will do. The anterior wall forms a protuberance in the face; the median wall produces a narrowing of the cavity of the nose, and by-and-by a dislocation of the nose itself; the upper wall of the antrum, which is at the same time the floor of the orbit, is pushed upwards, diminishing the orbit, pressing the eye forwards, and rendering its movements difficult; the faculty of seeing is impaired or abolished; the hard palate of the affected side swells also in consequence of the tumour; the teeth become painful, loose, carious, and occasionally fall out, a symptom which is described by M. Gosselin[b] as pathognomonic of cancer of the antrum. But every one who considers that the roots of the molar teeth often project into the antrum, and that their nerves and vessels go through very thin canals, or even half canals, on the inner side of the walls, and that in the latter case they are covered only by the mucous membrane and the periosteum, will understand that a tumour, of whatever nature it may be, developing itself towards the under part of the antrum, must produce pain by causing pressure on the nerves, and caries by preventing nutrition through the vessels, and by this means, and by compression of the roots themselves, it will occasion looseness and loss of the teeth.

When the enchondroma increases still more, the deformity augments a great deal; the posterior nares are destroyed, the septum nasi is perforated, and the tumours appear through the nostrils, and may enter the opposite antrum; in consequence of the compression of the lachrymal duct, the tears run over the cheek; in consequence of the obstruction of the Eustachian tube, deafness arises: and if the tumour increases towards the fauces, mastication, deglutition, and respiration, are impeded. By surrounding the articulation of the jaws, the opening of the mouth may be rendered difficult. The tumour may perforate the base of the skull, and the patient may die by suffocation, or compression of the brain, or with sanguineous apoplexy.

The osseous walls may be destroyed and perforated by pressure, but there is never infiltration of their substance (the point

[a] Luschka: Virchow's Archiv. [b] Gazette des Hôpitaux, p. 250. 1852.

of connexion between the enchondroma and the bone being usually circumscribed); neither is there a tendency to suppuration within the adjacent bone or soft parts, nor infiltration of the neighbouring lymphatic glands, nor of any distant organ; neither is there any implication of the system at large.

### CASES OF ENCHONDROMA OF THE UPPER JAW.

Case I.—I have before me a morbid specimen taken from a woman, aged fifty-six years. In the notes of the case it is recorded that a tumour began, twenty-four months previously, to develop itself in the left antrum, but very probably it existed long before without producing any remarkable symptom, and, therefore, without being observed.

The growth is of the size of a man's head, and consists of three lobes, divided by superficial indentations. Two of these belong to the left side of the face, which is extended a great deal more than the right. The nose appears almost totally flattened, the nostrils are reduced to oblique slits; the left bulbus is covered by the tumour and by folds of the skin; the right one is intact. The skin is distended, unaltered in texture, without any trace of inflammation, and is fixed by tense cellular tissue to the surface of the tumour. The enchondroma originating from the left antrum has distended, the interior especially, and the upper and the lower walls. In the centre it presents as a residue of the maxillary sinus a hollow of the size of a small nut, communicating with the nose. The posterior part of the cavity of the nose and the posterior nares are preserved; the anterior part of the nose is compressed, so that its walls come laterally into contact. The upper parts of the tumours occupy on each side, the frontal process of the maxillary bone and the nasal bone, and extend themselves upon the surface of the frontal bone, leaving intact its sinuses.

The hard palate and alveolar process are transformed into a shapeless, irregular, knobby mass. The antrum of the right side is greatly distended. The section of the tumour made through the left side appeared partially ossified, especially round the antrum, and in the parts adherent to the nasal bones. The periphery of the tumour shows traces of pure cartilage. There is no osseous shell on the outside of the tumour; it therefore belongs to the enchondromata without osseous shell[a]. With the microscope I found it to be composed of an amorphous, here and there fibrous, fundamental tissue, with large

[a] Rokitansky, Pathologische Anatomie, Bd. ii. p. 175. Second Edition.

cartilaginous cells, with ossifying cartilaginous cells of different degrees, and with complete osseous corpuscles.

Case II.—Partridge removed an ossifying cartilaginous tumour, with a part of the nasal process of the superior maxilla, to which it adhered. The tumour had developed itself within twenty months, had been removed eight months before, and very soon formed again in the same place.

Case III.—Stanley, in his Illustrations of Diseases of the Bones[a], gives the drawing of an enchondroma of the size of a goose-egg, which grew out of the left antrum of a lad of fourteen years; it increased slowly, extended the walls of the antrum, especially in the direction of the face and upwards; perforated the orbit, protruded both eyes, and extended through the base of the skull into its cavities. On section it was found to present isolated patches of ossification. Posteriorly there was a smaller, soft, vascular tumour, of a reddish colour, adherent to the first.

Case IV.—Gensoul[b] removed the upper jaw-bone with a fibro-cartilaginous tumour, of the size of a man's fist. It had grown in the sinus; presented a globular form, an even surface, a well-defined outline, and loose cellular connexion with the adjacent parts.

Case V.—Langenbeck[c] performed two partial resections of the upper jaw-bone with enchondroma, once upon a lad of fourteen years, in good health, and of blooming appearance. The first symptoms which the patient observed were filling of the left nostril and protrusion of the left eyeball, without any pain; the septum nasi was dislocated towards the right side; the hard palate was pressed downwards, was soft and compressible; all the space behind the velum palati was filled with the same hard, elastic growth. Langenbeck removed the nasal process of the maxillary bone by means of the pannel-saw, and separated the tumour from the spina nasalis posterior, where it was attached. The specimen is preserved in Langenbeck's museum, and presents an example of an exquisite enchondroma, of homogeneous consistence, ossified at the base; its colour is bluish-white; the tissue poor in fibre; the cells are large, with concentric rings, and for the most part with radiated nucleoli; the intercellular substance is clear and very transparent.

[a] Plate xvii. Fig. 3. [b] The Lancet, vol. ii. p. 176. 1852.
[c] Lettre Chirurgicale sur quelques Maladies graves du Sinus Maxillaire, page 9. Paris: 1853.

Case VI.—In the second case Langenbeck removed the nasal process, and the anterior wall of the antrum, by means of the pannel-saw, chisel, and hammer, from a man twenty-six years old. Both operations were successful.

Case VII.—Of another enchondroma, I got but this notice in Paget's work, above mentioned:—"I know but one specimen of the upper jaw alone; a great tumour, portions of which are preserved in the Museum of Guy's Hospital, and of which the history, by Mr. Morgan, is in the Hospital Reports."

Case VIII.—Another case, mentioned by the same author, belongs only conditionally to this place, the enchondroma having originated from the ethmoid bone, and invaded only secondarily both the upper jaw-bones.

Of these eight cases four were males, one was a female, and in three the sex is not stated. The youth of the patients is worthy of note, the eldest being fifty-six, the next twenty-six, one nineteen, and two fourteen years old. In three instances the tumours grew from the antrum; in two from the nasal bone; in two from the jaw-bone in general, and in one from the ethmoid bone. One tumour, of the size of a man's head, is reported to have grown in twelve months, while the growth of one of the size of a hen's egg extended over twenty months.

In five cases we have before us pure cartilaginous growths, with or without partial ossification; in one case the enchondroma was combined with a soft vascular tumour. The size of the tumours varies between that of a hen's egg and that of a man's head. In three cases the nasal process of the superior maxillary bone was resected, once together with the anterior wall of the antrum; in one case an extirpation of the tumour took place, probably with a partial resection of the bone; in another case with total removal of the upper jaw. In three cases no operation was performed, the growth having increased too much, and penetrated even into the cavity of the skull.

One of the operations was performed in consequence of a relapse, after a removal of the growth eight months previously; two of the other operations were permanently successful; whether the other two were also successful, or whether they relapsed, does not appear from the published reports of the cases.

Art. XI.—*Essays on the Natural History of Syphilis.* No. IV By William Henry Porter, M. D., Professor of Surgery in the Royal College of Surgeons in Ireland; Surgeon to the Meath Hospital and County of Dublin Infirmary; and Consulting Surgeon to the City of Dublin Hospital; &c., &c.

The syphilitic virus once having entered the system, generally, although not invariably, proves its presence by the development of certain symptoms, which, in their usual forms, appear in a regular order of succession, thus exhibiting a vast variety, not alone with reference to the parts engaged, but to each particular class of symptom,—that is, not only is the primary symptom different from the eruption, and the eruption from the enlarged testicle or carious bone, but there are varieties of each of these, of the chancre, of the eruption, and, indeed, of almost all the symptoms that tend materially to complicate the subject. And farther, these difficulties are still increased by the consideration that many other diseases furnish symptoms so similar as to render it impossible to predicate any sore, or any symptom of syphilis, without a chance of error or mistake. This seems to be the chief cause of the uncertainty and confusion observed in practice. Notwithstanding the prejudices entertained against it, I feel convinced that almost all persons are willing to resort to mercury, provided only they can be assured that the disease to be combated is really syphilis; the objection not being so much to the absolute risk of danger from the mineral, as to the undergoing such annoyance, and privation, and suffering, possibly without the least necessity. In the present state of our knowledge, an accurate diagnosis is altogether unattainable,—perhaps it may ever remain so; but obviously the first step to improvement is in the right understanding of the position we at present occupy, and of the facts and observations that gradually led to it. This, then, will lead to the consideration of two very important questions,—one, as to the circumstances that might cause the products of the poison to be mistaken for other affections, or others for them, embracing the subject of syphiloid diseases, or pseudo-syphilis; the other, whether these products are the results of one poison or of several: it is obvious that this discussion must be conducted with a frequent reference to mercury, for it was with a view to the avoidance of this much-dreaded medicine that the subject was ever investigated.

As far as I know, John Hunter was the first writer on syphilis who stated that many sores occurred on the genitals

which were curable without the use of mercury, and were not afterwards followed by any constitutional symptom whatever; in other words, that there were many sores not syphilitic: this position, if true, would seem to imply, that previously all ulcers so situated were regarded and treated as venereal, and affords no very brilliant picture of surgery as it must have then existed. This discovery, however, which really embraces almost all that is known at present, was at first of little practical value, for all symptoms found on the organs of generation, and all states of these symptoms, still continued to be submitted to the same remedy: formerly it had been used because they were supposed to be venereal,—now as a test to determine whether they were so or not. Under this treatment, if the ulcer healed, or the symptom disappeared, it was well; if it did not, but became worse, it was regarded as a proof of being more decidedly syphilitic, and the only medicine that could be relied on for the cure was more abundantly poured in. I am not now about to allude to the evil that flowed from this practice, that having been already noticed, but simply to point out the views that were generally entertained, as illustrated by the prevailing practice. Howard, Bell, and many others, of, perhaps, inferior authority, all taught that as syphilis could not be eradicated except by mercury, so the symptom thus removed must surely have proceeded from that poison. Up to the early part of the present century I find no mention made of pseudo-syphilitic disease.

About the time that Mr. Ferguson's remarkable paper appeared, several others were published by military surgeons, the object of which was to show that all ulcers whatever, occurring on the genitals, might be cured without the use of mercury, and that of these the great majority were not followed by any secondary symptom; nay, that in most instances the effects of the medicine were both useless and injurious,—useless, inasmuch as that all the symptoms of the disease hitherto regarded as lues venerea, secondary as well as primary, were removable without it; and injurious, in that it aggravated the primary sore to a most destructive extent, and afterwards, when the secondary symptoms appeared, caused them to assume a more exasperated and unmanageable character. These experimental facts, coming at the same time with Mr. Ferguson's observations on the direful effects of mercury in the Peninsula, caused an extraordinary revolution in professional opinion, the extent of which can only be estimated by recollecting that up to this time the effect of mercury on a sore had been regarded as the test of its nature, whether it was venereal or not. According to the usual test, it now appeared there was scarcely such a

thing as syphilis at all; these sores and symptoms were merely syphiloid. And this doctrine was not only entertained, but acted on. Several military surgeons undertook to treat the disease without mercury, and, if I am rightly informed, under the orders of the late Director-General of Military Hospitals not a grain was administered in the British army for some years. I know that in the year 1825 no mercury was employed in the hospital of the battalion of the Guards then quartered in this city. Of course nothing was gained by the practical operation of a principle so hastily adopted and so illogically sustained. All that had been actually proved was, that all sores and symptoms, whether syphilitic or syphiloid, might be removed without mercury, and this might have been ascertained in any lock hospital in three months, had the attention of the surgeon been pointed in that direction. As it happened, our information stopped there, for, instead of seeking some diagnostic mark by which the true venereal might be recognised, the object seemed to be to determine statistically the proportion of secondary symptoms that followed on any given number of cases. Prominent amongst the investigators of the day was Mr. Rose, whose position as surgeon to the Guards afforded him an opportunity of observing his patients for months after the primary sores had healed, and whose opinions commanded the greater respect as being the apparent deductions from experimental observation. His experience extended over a period of a year and nine months, a space of time far too limited for any useful purpose; he treated all sores on the genitals without mercury, and they all got well, although he says some of them must have been syphilitic. Upon an average, one out of every three cases thus treated had some constitutional affection, but (as he says) not such as would be considered venereal. And what were they? *Papulæ*, *iritis*, *pains in the bones*, *pustules*, *stains like dappling*, *sore throats*, *loss of hair*, *deafness*, *and patches on the mouth and lips.* I have already taken occasion to express an opinion as to the practical inutility of syphilitic statistics; certainly, when I examine the above list of symptoms that "would not be considered venereal," I am not at all disposed to modify that opinion on the score of accuracy of diagnosis.

But the change of professional opinion and practice on which I am now adverting must not be attributed to any one circumstance alone, however influential it may appear, for many contributed to it. A few years previous to the period above alluded to, the late Mr. Abernethy published a tract on diseases resembling syphilis, or, as he rather unhappily termed them, "pseudo-syphilitic diseases." He stated (as had been previously

noticed by Hunter), that numerous sores occurred on the genital organs, as consequences of illicit intercourse, that were not of a syphilitic nature; and farther, that secondary symptoms also, in every respect resembling those of lues, occasionally made their appearance, although the system was in reality uncontaminated and free from disease. The most startling part of this tract (and most undeniably startling it must have appeared at the time) is where the author details cases of excavated ulcers in the tonsils, and copper-coloured blotches on the skin, that had disappeared without the use of mercury, and had never reappeared, or been succeeded by other symptoms, up to the period at which he wrote. But Mr. Abernethy starts with the principle so forcibly put forward by Hunter, that a really syphilitic symptom will continue and increase until relieved or removed by mercury; and it was solely and simply because these ulcers, whether on the penis, or in the throat, and these copper-coloured blotches, disappeared without the use of the medicine, that he called them pseudo, instead of really syphilitic. To us now, the facts and arguments contained in this tract are of little value; but then they proved to demonstration the existence of diseases resembling syphilis, some of which not only could be, but actually had been, cured without mercury, under the observation of one of the most distinguished practitioners in London. Pearson had just given a fearful description of one of the poisonous effects of mercury; and Alley and Moriarty, about the same time, published their accounts of another of the sad effects of the metal, more painful and more loathsome, though less dangerous to life, than the other. The excitement on the subject must have been rather great, for both these latter gentlemen obtained the honour of knighthood for their works. The army surgeons declared that mercury was useless and injurious, and professed to cure all forms of the disease without it. Now this accumulated mass of evidence was brought forward at a time when syphilis and mercury held such close relation to each other in the minds of practitioners, that not only was the medicine absolutely necessary to the cure of the disease, but the fact of its curing it or not was made the test of the existence of the poison. If a sore healed without resort being had to the medicine, or if, after it had been used, a sore refused to heal, in either case it could not be truly syphilitic,—a new name must be provided for the new disease: it was syphiloid, or pseudo-syphilitic. It is now manifest how closely this subject all through is identified with mercury.

With the explanation now afforded, it will not be difficult

to form a simple, and at the same time a satisfactory notion of what is meant by pseudo-syphilis : it is really a compound term, comprising several varieties or species. It is familiarly known that, as the result of impure connexion, a great variety of ulcers appears on the genital organs of both sexes; some of these to be afterwards followed by constitutional symptoms if mercury be not employed, and some not; but all of them possibly removable without applying to the remedy at all. The sores so healing, and not succeeded by any secondary symptom, are pseudo-syphilitic. Again, when constitutional derangements arise, they also appear in a very great variety of symptoms, and all are removable without the necessary employment of mercury; but if the medicine is used, some are observed to disappear obviously under its influence, some are not affected by it, and some are manifestly injured, and become aggravated by its use. Where mercury has not been employed, and the sore throat or the eruption has disappeared, and never returned, or been succeeded by any other symptom, such case (if ever there was one such) might indubitably be called pseudo-syphilis; and where mercury has been fully and fairly employed, and the disease has obviously become worse, it is called pseudo-syphilis also. Now, when these cases are analyzed, one appears to bear no relation to syphilis at all, except that it is contracted in the same way, and, being situate in the same parts and structures, must bear some resemblance to it; the possibility of the second is somewhat more than problematic; and the third is evidently an example of mercurial disease, which, however it may have followed, or in any other manner borne a relation to syphilis, is in no respect entitled to the name. But let us examine the subject practically. No matter about a name, it is but a word, and may be correctly applied or otherwise; but here it is made to represent a doctrine that is too generally received and acted on, and which, therefore, in its truth or falsehood, must exercise an important influence on mankind. It may not, perhaps, be strictly correct to introduce these remarks in a mere theoretical essay, but I cannot state my views accurately without them.

It is admitted on all hands that a great variety of ulcers occur on the genitals as the consequences of impure intercourse, and that some of these do not require mercury for their cure, and yet are not followed by any constitutional symptom. Can such innocent and harmless ulcers be distinguished and marked off? or, in other words, can the syphiloid symptom be pointed out and displayed in contradistinction to that of the genuine syphilis? In this direction, where progress would be

so invaluable, I insist that none whatever has been made. If inoculation is relied on as a test, it has been already shown to be inadequate and imperfect, unless performed on a different and a healthy person. If the hardness of the base of the sore is believed to be characteristic, many sores not so circumstanced are followed by secondary symptoms, and *vice versâ*. If it be tried by the effects of mercury, it has been clearly established that every sore of every kind may be healed without this medicine. Therefore, although I acknowledge that some, nay, that many, or even the majority of these primary sores may not be syphilitic, yet I am ignorant of the mark or character by which one can with certainty be distinguished from the other. That the genuine secondary symptoms are often irregular in appearance, indefinite as to time of development, and uncertain in order and duration, must be admitted also; that is, they so frequently deviate from what we are accustomed to consider as the proper forms and course of the disease, as scarcely to fall within its domain; and, therefore, I cannot with safety pronounce that any suspicious symptom is perfectly innocuous,—it may, notwithstanding any imperfection of character, be syphilis nevertheless. Thus, doubtful symptoms occasionally, nay, frequently, present themselves, which I know to be difficult, if not impossible, clearly and unmistakably to mark off as syphilitic; but I also know it to be more difficult and infinitely more hazardous to aver that they are not so, and therefore practically I disbelieve in the existence of pseudo-syphilis at all. If there is any meaning to be scientifically attached to this name, it must have reference to symptoms so far resembling the genuine disease in appearance and history as to be easily mistaken for it, yet so unlike in their general properties as not to taint the constitution, or demand the antidotal operation of mercury. Such a disease may possibly exist in the solitary instance of chancre, but if secondary affections are included, I believe it never does—at least I have never seen it; but I have seen very deplorable consequences from the really syphilitic symptoms being so regarded and managed, or rather mismanaged, accordingly; and where there is such room for doubt, and where a mistake may involve the health and happiness of hundreds, I think this practical incredulity, if an error at all, is one that may be easily pardoned, for if it leads to the unnecessary employment of mercury with a few patients, it will certainly save numbers from the destructive ravages of confirmed lues. But in offering these observations, let it be clearly understood that I refer to the disease in its original and simpler forms, and not to it after

its characters have been altered and (if I may be allowed the expression) spoiled by inefficient and injudicious treatment, for in my attempts to become acquainted with the pseudo-syphilis of the present day, I find it almost uniformly to hold some mysterious connexion with mercury. The ulcer that heals without mercury is pseudo-syphilis ; the symptom that resists the medicine, and will not heal, is pseudo-syphilis also; the disease in which it has been used partially and prejudicially, and the complications of syphilis with mercurial disease and with scrofula, are all spoken of under the same appellation. It seems to be something that has arisen out of an earnest desire to escape the use, or apologize for the abandonment, of a much-dreaded medicine, and is applied to every affection in which such medicine can, by any stretch of imagination, be supposed to be useless or injurious. Is not this, in some respects, a return to the state of practice three centuries ago, and an illustration of its history at all times ? At one period mercury is abandoned, because of the dreadful ravages it confessedly commits, and the reason is openly and fairly stated. Now the same line of practice is attempted, because, forsooth, it is not required ; it is not syphilis we have to deal with, but a pretentious disease that resembles it. But I look forward to the same result in both instances. As the use of mercury has been again and again resumed, in despite of every obloquy,—nay, in despite of every mischief wrought by the most cruel mismanagement,—so will it in the present instance, if the lues venerea is to be cured. Doubtless, under the modern system much apparent good has been effected, and a vast deal of actual suffering spared, for it may not be denied that we have now nothing like the destruction and misery that were but too prevalent under the hyper-mercurial system,—I mean that which inculcated the unsparing use of the medicine for every sore and in every constitution. But in lieu of these evils it is greatly to be feared that we have secondary symptoms infinitely more prevalent, and especially that one which I have adopted as the only true criterion of the existence of the syphilitic taint,—namely, the production of a putrid or pocky offspring. Which of these evils may occasion the more deplorable consequences to society, it is not my province to inquire: fortunately, the scientific practitioner, who understands the resources of his medicine, is not driven upon either, and both may be avoided by subjecting to a careful, well-regulated, and judicious mercurial treatment, "every symptom so far resembling the genuine disease in appearance and history as to be liable to be mistaken for it."

It was about the same period, or perhaps a short time subsequent thereto, that the late Mr. Carmichael was appointed one of the junior surgeons to the Lock Hospital then maintained in Dublin. I know not whether he had previously formed certain opinions, and merely waited to have them matured and confirmed by hospital experience, before he gave them to the world, or whether they were the results of observation within its wards; but, very soon after his appointment, he commenced a course of clinical lectures, in which he first advanced those opinions relative to syphilis which have since attracted so much attention, and doubtless will connect his name with the advancement of surgical science wherever this formidable disease is known or treated. He was comparatively but a young man when he received this appointment, yet his clear and scientific mind at once perceived that all the late inquiries had been made in a wrong direction, and that the facts elicited were useless for want of arrangement and general application: he resolved to avail himself of the opportunity now presented, and attempt the investigation of a subject that had for centuries occupied the wisest and most learned, and seemed to have baffled them all. It had been already marked out for him that the primary sores arising from impure connexion were various in their characters and consequences, and he attributed this variety, not to modifications of the one syphilitic poison, but to the presence and influence of a number of different poisons, each occasioning its own characteristic primary ulcer, to be followed by its own proper and peculiar train of secondary symptoms. In order to establish this position, it was necessary to classify and arrange the primary sores, and describe each according to its prevailing characters, and, this being accomplished, to point out the particular eruption and sore throat that would inevitably follow; so that each train or group of symptoms should constitute in itself one disease perfect and complete, and not a mere portion of one, however large and important that portion might be. But it had also been shown that many, nay, that all the symptoms of lues venerea were curable without mercury,—I fear a sufficient distinction was not always made between the ideas of a perfect cure and a mere removal or disappearance of a symptom ; at all events, it was generally believed that many genuine syphilitic cases (as in the army, for instance) had recovered without mercury, and it was necessary to point out which, if any, of these newly-arranged groups were so curable. How far he may have succeeded in this attempt it will now be our business shortly to inquire; and if in the end we are compelled to dis-

sent from his views, we must, at all events, accord him the credit of having chosen the course in which discoveries, if made, would have proved most valuable, and of having pursued it in the true spirit of philosophical and at the same time practical research.

Called by whatever names we please, there can be no doubt that a great number of different kinds of ulcers are produced on the genital organs by impure intercourse; and that many of these are harmless, will not contaminate the constitution, and are curable without mercury, no one of any experience will be disposed to deny. In one sense, therefore, a plurality of venereal ulcers must be admitted. But of these I exclude all that are not followed by constitutional symptoms, as bearing no relation whatever to the poison of syphilis. Now, when the system manifestly is contaminated, and secondary symptoms make their appearance, there is still a variety of eruptions with the most remarkable diversity of character; each writer on the disease enumerating a different number, and some, from their complexity, abandoning all attempts at classification whatever. Again, if we look to the throat, the eye, and other structures, we observe nearly the same variety; and, to carry the observation to its utmost possible limit, let it be recollected that even pocky infants are not all alike: some perish untimely, and are abortions; some are brought forth not only dead, but partially decomposed; some come into the world incurably diseased, and die in a few days, in despite of every treatment; whilst in others the symptoms are developed at a later period, and readily yield to mercury. Whence this diversity? Why should a chancre in one man be followed by a papular or scaly eruption, but slightly disturbing the patient's health, and scarcely withdrawing him from his ordinary avocations; and in another be succeeded by tubercles and rupia, foul and painful ulcerations, and wasting fever? Those who recognise but one syphilitic poison consider all chancres, however differing in appearance, as being inherently and intrinsically the same, but that the seeming modifications of character are caused by the structure and situation of the part in which the ulcer is placed; by some peculiarity in the patient's constitution; by the virulence of the poison having been weakened by having passed through a number of individuals; by the patient having taken more or less of mercury; and they are obliged to acknowledge that perhaps there are numerous unseen and unknown influences tending to the same result. This, after all, amounts to little more than stating a fact, and then adducing, as the cause of that fact, a number of circum-

stances just as obscure and imperfectly understood. Others, however, attribute the variety to a diversity of poisons, producing a diversity of sores, each of these latter being followed subsequently (with no more deviation than occurs in other diseases) by its own proper train or group of symptoms, and running its own proper and peculiar course; and it must be added, that of the sores so followed by constitutional disturbance, or rather of the diseases so constituted, there are some extremely mild in their characters, said to be susceptible of cure without the aid of mercury, and some in which the employment of the metal is said to be prejudicial. Now this latter, which was Mr. Carmichael's view of the subject, is unquestionably the most plausible, and such as a *prima facie* view of the phenomena would seem to encourage: nay, there is no reason why any man may not adopt it as a theory or an opinion as well as another as little capable of proof, provided he does not carry into practice the idea that there is any one of these poisons removable without mercury. The pseudo-syphilitic symptom (if there is such) may be so dealt with; but it will prove hazardous to tamper with any form of secondary disease, no matter whence it may appear to be derived, or by what name it is technically designated.

But to proceed with this doctrine of a plurality of poisons. It is, it can be, of no consequence whether there is one syphilitic poison or twenty, if the same mode of treatment is required for all; but if there be even one only of the twenty to which a milder and safer treatment may be applicable, and if I can discover and mark off that one so that it shall be easily recognisable by myself and others, I have, *pro tanto*, simplified the practice of surgery, and conferred a valuable boon on mankind. It remains, then, to be inquired into, whether this has been accomplished, and to what extent. Now, first, let it be observed that the occurrence of any primary sore does not necessarily involve the sequence of secondary symptoms of any kind or description; it is true, such sequence is the more ordinary course of events; but, nevertheless, many patients treated without mercury, and supposing themselves cured because they exhibited no constitutional symptom, have infected their wives, and produced pocky children. That is a fact that I have adverted to in a former essay; it has repeatedly fallen under my own observation, and I imagine (however wilfully overlooked) must have occurred within the experience of others. This case can belong to no group or chain of symptoms, when it only exhibits the first and the last. Secondly, suppose some constitutional symptom to succeed any given chancre, and to

disappear afterwards spontaneously, or be removed by an insufficient quantity of mercury, should another eruption break forth at a subsequent period, it by no means follows that it shall be of the same kind or character as the first one; evidently showing that two different kinds of eruption, or perhaps more, may follow on the same sore. Again, it seems that those who group the symptoms of syphilitic disease, having reached the eruptions, are obliged to stop there, and can pursue the train no farther. No one can tell what particular patient shall have iritis, or what group or succession of symptoms will certainly entail a swelled testicle, and so much incertitude hangs over the syphilitic affections of the periosteum and bones, that some hesitate to believe that they do or can occur except as the result of some mercurial complication. Farther, I do not find it even asserted that any one kind of eruption is so completely devoid of syphilitic taint that the person who has suffered from it, and been cured without mercury, can rest perfectly satisfied that his or her offspring shall be born pure and healthy. I know how difficult it is to shake any opinion deliberately formed, and how easy to deny any assertion that has a tendency to impugn it. I am quite aware that persons have been so absurd and so obstinate as even to question the existence of the syphilitic infant, and therefore cannot claim for my opinion more respect than has been conceded to others; but if any reliance can be placed on the evidence of the senses, I am satisfied that I have seen syphilis exhibited in the children of persons who had suffered from each and every form of cutaneous disease usually attributed to that poison,—the scaly, the papular, the pustular, the tubercular,—all seemed to be alike contaminated, and displayed the same loathsome appearances. Now let any practitioner show that this position is untenable; let him produce the syphilitic or syphiloid symptom which he will not treat with mercury, and yet guarantee that his patient shall have healthy children; or, if the children are diseased, let him foretell what peculiar form of disease it will be, and foreshow its deviations from the ordinary forms of syphilis, and at once I will acknowledge the truth of the doctrine, and adopt it in all its parts. But if the contrary is the fact,—if the ultimate results of a poison are always the same,—I must regard it as presumptive evidence that its origin is the same, although I may not be able fully to understand its irregularities and vagaries in the different parts of its course. I have only one argument more to offer on this head, derived from the fact (if it is a fact) that one and the same woman, having only one kind of sore, may infect her lovers with sores of various and de-

cidedly different characters. Every one must at once perceive how the history of the troops in Portugal, as told by Mr. Ferguson, bears upon this subject, inasmuch as it is certain that the females who communicated a mild and trifling disease to their own countrymen, infected the British with the most frightfully destructive phagedenic ulcers: he speaks, for example, of an opera-dancer that spread ruin around her in every direction, yet suffered so little in her own person as not to have her professional avocations interfered with for a moment. Notwithstanding this and other similar facts, an opposite opinion very generally prevails, is held by most respectable authority, and sustained by that most fallacious of all proofs,—inoculation. Of course, therefore, I do not claim importance for the following anecdote, nor do I hope to convince a single sceptic by it; however, being myself convinced of its truth, I avail myself of it, leaving others to form their own estimate of its value:—Many years ago, while yet a student, several of my companions in College contracted the disease, and all attributed the infection to the one courtesan: they had ulcers of different characters, and one of them in particular had one of the worst phagedenic chancres I ever saw, which was treated with mercury by a gentleman who very shortly afterwards became a decided enemy to the mercurial system. This female, after having wrought such variety of mischief, became a patient of the late Mr. Hewson in the old Lock Hospital, where I had an opportunity of seeing and attending her. Through curiosity on the subject, as I was acquainted with so many of her victims, I suggested that she should be carefully examined, and the result proved (so far as anything connected with syphilis is susceptible of proof) the truth of the above position. I think I have since made out the same result in other instances, but never so clearly—never so impressively: it was one of the first and earliest observations I had ever made; and as no such doctrine as a plurality of poisons had then been thought of, it certainly was made without reference to the support of any theory whatever. If, then, this be true,—nay, if in a single instance I can discover a sore producing such effects, how can I regard that ulcer as containing within itself a variety of different poisons, to be scattered indiscriminately, and perchance among the individuals who may come within the sphere of its influence, bestowing on one a Hunterian chancre, on another a phagedenic, and on a third a sloughing sore; each of these to be subsequently followed by some eruption peculiar to itself? Thus it is that I cannot believe in a plurality of poisons; thus am I compelled to fall back on the doctrine of one poison

only; granting (for it may not be denied) that this poison produces a variety of sores; granting, also, if demanded (for it is now of no practical importance), that one syphilitic sore will frequently, although not uniformly, be followed by one particular eruption, or one form of sore throat; but maintaining that whatever ulcer is so followed derives its malignity from one and the same poison, contaminating the system in one and the same manner, and removable (as far as is known at present) only by the one medicine.

Having now examined, with all the candour and fairness of which I am capable, some of the most important features in the natural history of syphilis, objecting freely to opinions that seemed questionable, no matter by what authority sustained, and endeavouring to support my own views as far as possible by the experience and arguments of others,—I look back with astonishment at the small amount of progress that has been made, and at the mass of obscurity that still hangs over this seemingly devoted subject. In an early part of these essays I pointed attention to a law which had (as far as I know) hitherto escaped observation, that "the poison of syphilis never returned on itself, or re-contaminated the source from which it was derived;" and the effects of that law in invalidating all the conclusions supposed to be established by inoculation. I then attempted to explain certain results produced by the continuance or persistence of the poison, and its lying dormant within the individual for an unlimited space of time; and how every peculiarity or property of it seems designed to favour its extensive dissemination. I have now followed out the disease as it shows itself in a multitudinous diversity of forms, and have canvassed some of the causes that seem to modify its appearance, its progress, and its termination. I have examined the question of a plurality of poisons as productive of a number of actually different diseases; pointed out the possible effect of a renovation of the infection in occasionally introducing some black lion, or other fearfully aggravated form of disease, and acknowledged that it sometimes assumes a milder aspect, as if about gradually to wear itself out and disappear. So far I have endeavoured to point out, in the differences between syphilis and other blood diseases, some causes for the exceeding variety in the characters of its symptoms, yet still it is obvious that there is something more; something still remaining behind, more potential in operation than any of these or all; something needed to explain the wonderful difference in the time, and order, and manner of development of the various symptoms, and of which we are profoundly ignorant. Thus it has been

seen that syphilis may lurk for years in one individual, never exhibiting a single symptom, never occasioning so much inconvenience as to arouse suspicion, until the mischief is discovered by the unexpected appearance of an infected offspring. Contrast this with the fearfully destructive and rapid progress of the disease in others, sore following sore, and symptom succeeding symptom, until the entire body has become apparently a mass of filth and rottenness. We too frequently see cases in which, from the first appearance of the chancre, the patient has never been one moment free; eruptions, sore throat, iritis, swelled testicle, nodes and caries, rupia and ulcerations following each other with unceasing rapidity until he sinks under his sufferings, and dies one of the most pitiable objects in the creation. The latter of these is confessedly a case of syphilis, without any possibility of doubt or error; so is the former, unless it be asserted that the birth of a pocky child is no proof of the existence of the disease in the parent. They are both specimens of the one disease,—the products of one poison,—why does this poison lie dormant and at rest in some, whilst it occasions the most unremitting and dreadful sufferings in others? In all classes of the community,—in apparently all kinds of constitutions and temperaments,—in persons of every habit and pursuit of life,—this unaccountable diversity is observed. I have already stated that I cannot trace any differences in the original infection, and therefore must refer it to some peculiar state or condition of the individual; I must say that it depends on his constitution. Now, after all, how very little of real or available information is gained by this method of dealing with the subject! We know that the course and progress of the disease may exhibit the greatest possible variety; that, once a chancre has healed, no one can tell whether it will be followed within a week by a sore throat, or an eruption, or whether the patient will remain to all appearance sound and healthy, until (it may be) in years afterwards he infects a wife and child; and we say that this variety is determined by the constitution, but of the peculiarity of that constitution we are utterly and profoundly ignorant. Still we are, in this respect, not much worse off in dealing with syphilis than with many other affections. Out of fifty patients, the subjects of operation, we know not the few that may be attacked by erysipelas; out of a number wounded we cannot point out the one or two that may subsequently die of tetanus; we can neither prevent the occurrence, nor explain it when it has happened, otherwise than by reference to the constitution. This, then, of which confessedly so little is known, seems to be the great, the prevailing influence

in determining the progress of syphilis, and perhaps in forming its characters of severity or mildness. How diffident should it make us in advancing or asserting a positive opinion, and how candid and forbearing in examining the views of others.

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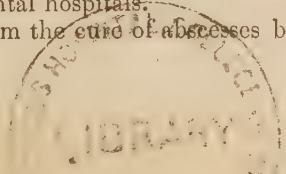
Art. XII.—*Observations on the Treatment of Acute and Chronic Abscess by the Method of "Drainage Tubes."* By T. Hawkesworth Ledwich, F. R. C. S. I., M. R. I. A.; Lecturer on Surgical Anatomy in the Original School of Medicine, Dublin; and Member of the Surgical and Pathological Societies of Ireland.

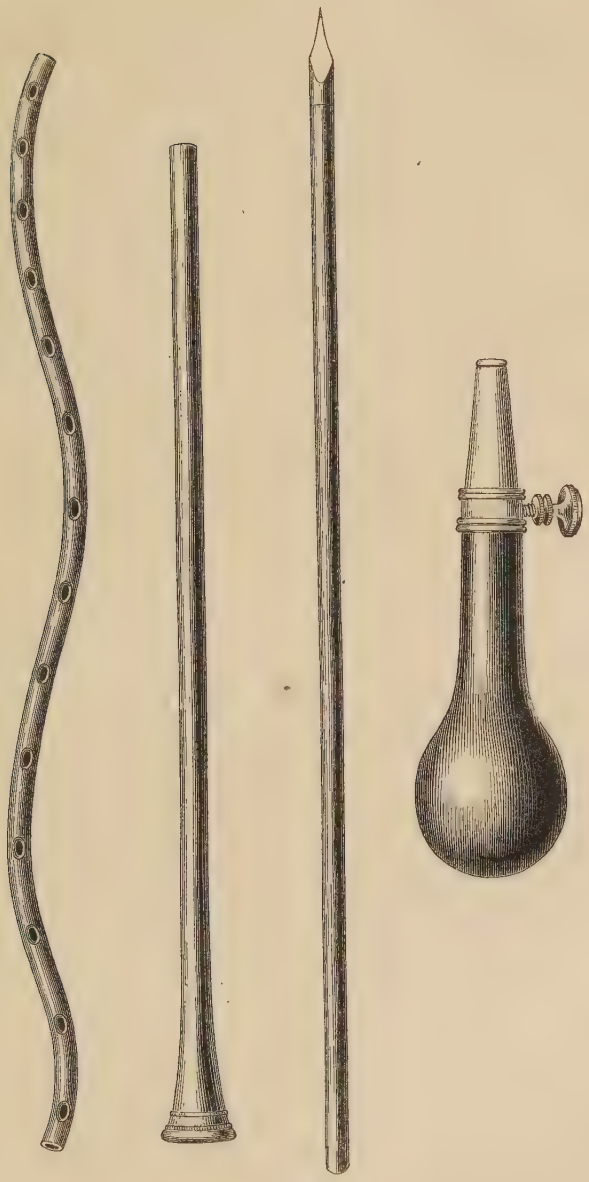
The diseases which engross the greater part of the attention of the surgeon, both in hospital and private practice, are essentially inflammatory in their nature, being generally attended at some stage of their progress with that modification of the hyperæmic condition termed "suppuration," or the formation of abscess of a circumscribed or diffused character in the areolar tissue of certain organs or parts of the human body. But whether they present themselves in the acute and sthenic form, or as the results of asthenic accumulation, the objects of surgical interference remain invariable, based on the same principles, and tending in their details towards the attainment of a similar ultimate effect. The indications to be fulfilled in the treatment of abscess are—first, to give exit to the abnormal fluid; secondly, to avoid its re-accumulation; and thirdly, to promote contraction of the pyogenic cyst, with adhesion of its walls, and consequent obliteration of the cavity: these several objects being attained with a degree of rapidity consistent with safety, and an immunity from the effects of those unfortunate accidents arising from artificial communication, created by the exigencies of surgery, in extensive purulent depôts. These indications seem to be fulfilled with so much safety and simplicity by the "drainage system" of treatment invented by M. Chassaignac, that I do not hesitate in bringing the details of the process before the profession, in order that a more extensive field for its operations may be attained, and an impartial investigation of its merits lead to its more general adoption as a curative agent in the treatment of abscess; and it may occur that the Irish school of surgery, maintaining its deserved practical character, shall further modify and improve a process which has already received the sanction of many eminent surgeons of the Continental hospitals.

In order to perform the cure of abscesses by drainage, the



following instruments are necessary for the purpose, which will become easily intelligible by reference to the woodcut, as it is a faithful representation of their outline, they being delineated of something more than half of their natural size. The canula and trocar, B, C, are about ten inches long; the shaft C, is movable in the handle D, one extremity being sharp, like an ordinary trocar, the opposite, blunt and rounded. The former is calculated to make an easy entrance into a cavity, whilst the latter performs the functions of an exploratory probe; lastly, a portion of caoutchouc tubing A, somewhat smaller in caliber than the canula, with a number of minute lateral perforations, completes the apparatus. Its use may be thus briefly described. The sheathed trocar is cautiously plunged into the abscess, and then a counter puncture is made from within, at some distance from the first point of entrance; the trocar is now removed, and a portion of tubing is passed through its canal; the ends projecting from the openings are tied together, and light dressing alone is necessary in the further progress of the case. If the abscess is large, a second pair of openings should be made, and an additional tube introduced through the cavity. The surgeon may be averse to puncture the skin; and if such should be the case, a small incision through the integument only will facilitate the entrance of the trocar into the abscess. The tubes should be allowed to remain without interference until all pain subsides, the discharge diminishes, and the cavity becomes small and solid, with inversion of the margins of the tube apertures. Such is the operation: being sufficiently simple in its performance to satisfy the most timid operator, and so free from any disagreeable results as to diffuse inflammation or sloughing, that, from my own observation of its effects, I can affirm the most fastidious practitioner of conscientious surgery may fearlessly adopt its universal application in the treatment of purulent collections in all the external regions of the body.

The cases in which its use would seem specially applicable next demand a brief consideration; but this proposition opens up such an extensive field for examination, that instead of going fully into the history of abscess, and the general details of suppuration, I can only direct attention to the salient features which render the system of "drainage" novel in its principles, feeling confident that the clinical observation to which it will be subjected must bring the minor details associated with the plan more permanently before the educated eye of the hospital surgeon than could possibly be accomplished by the most copious description.



A B C D

To produce an acute or sthenic abscess, the vessels of the particular tissue must pass through their morbid alterations, both as to their structure and contents, so as to permit of the escape of a certain amount of liquor sanguinis into the inter-vascular spaces; if this process occurs slowly, and the effusion is within certain limits as to quantity, excess of tissue ensues; but if greater rapidity is observed, and a larger amount of plasma escapes than can be assimilated into the surrounding tissues, then a new product, *pus*, is formed, contained within an artifical cavity, lined by a pyogenic membrane, composed of solidified plasma, and this surface determines, if it does not absolutely cause, the formation of purulent matter. Now, whilst the pus remains within the abscess, it becomes itself an obvious source of morbid action, by causing an irregular distribution of the blood to the minute tissues, and accelerating nutrition beyond its normal standard, and new products allied to, but not identical with tissue bases, are formed, with the physical characters of pus. That purulent matter, in its organic elementary constitution, bears a close resemblance to structural blastema, is indisputable, from an examination of its contents; here there are nucleated cells, fibrinous corpuscles, and a fluid containing, in solution, pyin, possessing many specialties, associating it organically with albumen, or even fibrin; the recollection of these facts will hereafter explain some of the peculiar advantages of "drainage." To relieve such a purulent collection an incision is made into the cavity: the rapid evacuation of the matter ensues; and the internal distending force being removed from the surface of the cyst, an augmented quantity of blood is determined to its tissue,—a circumstance which accounts for the fact that, immediately after the operation of evacuation, the amount of secretion is, as a general rule, increased in quantity; but this immediate effusion is very different from mature purulent matter, as the following experiment will illustrate:—I punctured a small abscess on the forehead, and forcibly expressed its contents; in six minutes it became again nearly of its former magnitude, with well-marked fluctuation; having introduced a grooved needle into the former aperture, a clear fluid escaped, and a drop having been placed on an object-glass, it fibrillated and became granular, just as liquor sanguinis is wont to do, but there was not a trace of pus; I opened it again in six hours, and purulent fluid constituted the contents. In fact the plasma only required the lapse of sufficient time to cause its transformation into pus, and convert what might rest at the stage of adhesion into the advanced process of suppuration.

In adopting the cure by "drainage," the surgeon will observe the application of the foregoing remarks, especially after attention has been directed to the immediate advantages accruing from the process in the restoration of parts to their normal condition:—

Firstly. By the introduction of the tubing the purulent matter escapes slowly; influenced by the natural resiliency of the surrounding parts, and by its gradual emission, sudden congestion of the cyst is prevented, as the process of natural opening is simulated exactly.

Secondly. It prevents accumulation of blood "plasma," and thus favours the conversion of moderate effusion into structural deposit.

Thirdly. It has a tendency to retain all the solid elements of the matter, thus promoting occlusion of the cavity.

Fourthly. It favours the production of normal action, particularly in connexion with diseased bone structure; and whilst it accelerates the exfoliation of disintegrated portions, it limits the excess of nutritive activity, promoting healthy deposit of reparative material.

Fifthly. It altogether prevents destructive inflammation of abscess cysts.

Having detailed systematically the general indications fulfilled by "drainage," the several special affections that are calculated to be benefited by its operation will form the next subject for consideration: and in treating this particular branch of the subject I must beg indulgence for the unavoidable imperfections entailed by the casual reference to many important diseases, each of itself being sufficient to form the text of a separate essay; let the fact, therefore, be borne in mind, that my remarks are only illustrative, never specially descriptive. Acute mammary abscesses, whether subcutaneous, glandular, or tubular, yield with the greatest rapidity to the plan, if properly carried out; and I have not seen either sinuses or re-accumulations supervene on its practice, as frequently occur where patients are subjected to the ordinary incision; nor is the successful issue of the case influenced by the puerperal condition of the patient, as these cases seem especially amenable to its curative agency. In that deep abscess forming beneath the mammary gland, attended with subacute symptoms, where a tedious form of suppuration supervenes eventuating in exfoliation of the ribs, the introduction of double tubing creates so great a change in the space of a few days, that I have almost failed to recognise the patient after a short absence. Again, in the subfascial abscess of the neck, whether idiopathic or occurring in connexion with

fever, the passage of a single drainage tube often prevents the danger of immediate suffocation, induced by accumulated matter pressing on the trachea. In such a case I witnessed the immediate utility of the practice. The whole right side of the face was enlarged, and the neck swollen to such an extent that the cervical region formed a plane surface with the clavicle and jaw-bone; there were great dyspnœa, and occasional spasms of the glottis, which threatened momentarily to close the patient's career. An opening was made cautiously beneath the ramus of the jaw, and the probed extremity of the trocar passed downwards to the supra-sternal space; the canula being now retained, the trocar was reversed, and a counter-opening formed, through which a portion of tubing was passed, and the surface lightly covered; a continual draining of matter and serum ensued, and in forty-eight hours nearly the whole swelling had subsided, and the neck returned to its normal proportions. Not only did the tube give exit to the confined pus, but it also formed a useful conduit for the escape of the effused serum, which formed no inconsiderable portion of the swelling.

Acute abscess occurring in the ischio-rectal fossa rarely terminates without the eventual formation of fistula, and so frequently does this accident ensue, that it has been seriously proposed, if not actually practised, to divide the sphincter ani when the abscess is being opened. All this inconvenience may be avoided by tubing and slow drainage, which favour gradual evacuation, and thus allow the cavity to diminish by the spontaneous return of the levator ani and contents of the fossa to their normal position and relative situations. It might seem a source of inconvenience to the patient to endure the persistence of the tube, but the irritation caused by its presence is trivial and temporary in its nature, whilst the avoidance of a disgusting alternative amply compensates for the slight amount of suffering entailed by the foreign body.

The acute syphilitic bubo, of a conical form, red, tense, and shining on the surface, which suppurates rapidly, yields almost immediately under the influence of drainage; but it is in the second form of specific abscess, occurring in the groin, that its great advantage is demonstrative as a curative agent in combating a tedious if not a formidable affection. This bubo appears somewhat late in the progress of chancrous ulceration, in persons of a lymphatic temperament. At first its progress, as well as its invasion, is insidious: painless and without discoloration of the surface, after some time it becomes hard, elevated, and oval, the long measurement being in the direction

of Poupart's ligament; pain now supervenes, whilst the skin on its surface becomes dusky, thin, and livid; still, the progress is slow commensurate with the languid character of the inflammatory process; finally, matter forming undermines the skin extensively, and the whole tegumentary covering merges on the confines of disorganization. If it is allowed to open spontaneously, or if evacuated by a simple incision, pendulous flaps of dying skin lie indolently within the deep cavity of the abscess, and these must be removed, or ulcerate, before the process of repair will take place, which may occupy months for its completion. The only attempt at improvement in the treatment of those affections has been limited to the use of potassa fusa, to open the cavity, as a substitute for the knife, but the amount of benefit derived from the change is more than problematical in the majority of cases, and in some instances has been productive of absolute injury to the patient, by further increasing the disorganization by its violent operation.

In the year 1852 I first endeavoured to devise some means by which disorganization might be averted, and the long confinement necessary for repair obviated, and at least in a minor degree I was successful, by adopting the following palliative method, founded on the supposition that the presence of the morbid product making pressure from within was, in some measure, the source of disorganization. A grooved needle was passed at some distance through the healthy skin into the cavity, and the sanious contents cautiously evacuated every second day. After the fourth repetition of the puncture, the skin, which was previously dusky, returned to its natural colour, and the case subsided without any external opening. Since that period I have followed this plan in every case with benefit, but certainly not with the same fortunate result as in the first experimental puncture; but if the cause of the destruction of the integument is really the result of pressure on parts already tainted by the influence of a specific poison, then the fine drainage tube is certainly indicated, and if utility is to be measured by successful results, the system will invariably be followed by every surgeon who wishes to relieve his patient "quickly, safely, and with trivial suffering."

Although few surgeons can congratulate themselves on the successful issue of cases of psoas abscess, when treated according to existing opinions, still there are some exceptional examples, which, differing pathologically from the ordinary variety, present a more favourable termination. The following cases will illustrate acute phlegmonous psoas abscess, and their probable course and termination.

A lady fell backwards over a small rock, across which her lumbar regions were violently extended. For a few days subsequently she complained of slight stiffness on the right side, in the course of the psoas muscle, but higher than ordinary in such cases. After some time, pain, with fulness of the right hypochondrium, set in, with well-marked fever, and clay-coloured tinging of the skin. An affection of the liver, and even abscess of that viscus, were suspected, and the treatment usual in such cases was pursued accordingly, but without any abatement of the malady. On the eighteenth day, counting from the period of injury, a tumour for the first time appeared in the groin, possessing well-marked fluctuation. A free incision gave exit to one pint and a half of healthy pus, to the great relief of the patient. However, profuse suppuration now set in, with hectic fever, and a slow recovery resulted, after an illness of six months.

In this case every circumstance pointed to the characteristics of pure phlegmon:—

Firstly, it arose from injury; secondly, the pus was healthy, always free from fetor or blood; and thirdly, the result was different from scrofulous disease in general. I have at present another case of a similar nature under immediate observation, in which acute inflammation of the psoas followed severe exercise, and although the progress of the case was slow under ordinary treatment, still, a complete recovery followed suppuration, and the patient now, years having elapsed, presents a deep pit or umbilicus in the groin as the only trace of his former complaint. Here "drainage" will obviously prove of immense advantage, converting a tedious, and often dangerous process, into a rapid and permanent reparative action.

The second and more frequent aspect of psoas abscess is manifested in children as the concomitant of spinal disease. Essentially scrofulous in its character, a slight injury is sufficient to call into active operation a disease that might have remained latent, under favourable circumstances, for a long period. Now whilst it is sufficiently evident that many of such cases have their source in disease of the bones, ligaments, or discs of the spine, still the universal association of psoas abscess with spinal caries admits of doubt, and a close analysis of the exact progress of the symptoms is sufficient to divorce a connexion based rather on authority than founded on just pathological principles,—an assertion that will appear not altogether devoid of justice when the subject receives a detailed illustration. In one *class* of cases the early symptoms are languor, lassitude, aversion to mount an acclivity or descend a stair, difficulty in perfect ex-

tension of the thigh, fulness in one lumbar region, with a possible swelling in the groin, indicating an advanced stage of psoas abscess. Now although the child may not have presented a single symptom of spinal affection at any period during the progress of the disease, still, because the patient is scrofulous, caries of the vertebræ is anticipated with certainty, substituting a conjectural idea for pathological reality. Again, the abscess having appeared and arrived at its full fruition, is opened, spinal symptoms supervene, and from hectic, or probably inflammation of the cyst, the child dies; a post-mortem examination reveals a small patch of caries with thickening of the surrounding ligaments, and this trivial point of disease is grasped at by the hand of prejudice and triumphantly exhibited as the "origo mali," or starting-point in causation of an enormous abscess: yet what a disparity exists between cause and effect in such examples—*a disparity* sufficient, and more than sufficient, to lead a reflective surgeon to doubt the universal relation of the two affections. Let it not be imagined that I would attempt to deny the connexion of caries and psoas abscess in particular cases, but, from the observation of numerous cases and the examination of several specimens, both here and on the Continent, I am led to doubt, and not unreasonably, that dogma of assumed experience, which would place the cure of psoas abscess without the aid of surgical science because the vertebræ must be diseased "at the bottom of the abscess;" and I will venture to place my reasons for arriving at this conclusion in a systematic form, trusting that surgeons will unprejudicedly examine these statements prior to forming determinate opinions on the subject. That psoas abscess is invariably the result of spinal caries is opposed by the following acknowledged facts in the history of that particular affection, and others of a similar nature:—Firstly, the symptoms of abscess often precede the spinal, and the latter may never become manifest; whilst where caries is absolutely the cause of suppuration, symptoms referrible to the spine are primary, the abscess being secondary. Secondly, there is often a great disparity between the amount of caries and the extent of the abscess. Thirdly, experience has proved that phlegmonous inflammation of the psoas, resulting in abscess, may be wholly confined to the muscle, and never proceeds to spinal disease. Fourthly, from our knowledge of the progress of similar collections, the fact may be reasonably inferred, that the abscess may be the cause of the caries, instead of the caries being the cause of the abscess, and this is susceptible of demonstration. Thus scrofulous deposits form in almost every region of the body, irrespective of diseased bone, and in

numerous cases diseased bone may be traced to the abscess, as its source. This appears frequently in chronic deep-seated mammary abscess, in the progress of which caries of the ribs is no uncommon complication; and this latter might just as fairly be esteemed the cause of the abscess as diseased vertebræ of the psoas collection. Fifthly, the cause of death in psoas abscess rarely can be referred to the spine, as it usually results from hectic, or inflammation of the cyst.

If, then, these reasons are sufficient to prove that the abscess may be primary, if they remove the question beyond conjecture, and place it within the limits of just reasoning from substantial facts, it is then no longer a subject of caprice or fashion as to the early evacuation of such collections, but one of the most vital importance to the patient, that a progressive malady, fraught with an amount of danger scarcely to be exaggerated, should be treated energetically in its earlier stages. But, supposing the bones are diseased, and that deep-seated disorganization is the obvious cause of the abscess, will the delay augment the patient's chances of recovery? I cannot conceive the reasons for such practice, that would leave a mass of purulent fluid to dissect and distend the long track of the psoas sheath, after it has pointed in the groin: every argument favours early evacuation according to the following rules:—If the bones are intact, or even if the evidence of their disease admits of doubt, open early; and further, should the bones be obviously carious, still evacuate the abscess, and the following advantages will be achieved:—The prevention of those evidences of constitutional disturbance due to over-distention of the cyst, together with the avoidance of any further increase in magnitude; and again, an outlet is obtained for the product of diseased action, which experience has taught me is of no mean importance in favouring the repair of abscesses complicated with carious bones. But surgeons have ever displayed an invincible repugnancy to any operative interference with psoas abscess; and the unfortunate results following incisions, caustics, setons, punctures, &c., in the treatment of these cases, seemed to justify the disinclination to adopt active treatment; in fact, every effort was made use of to exclude, during the operation, atmospheric air, as the inflammation of the cyst, which so frequently follows, was solely attributed to the noxious influence of air inducing disorganizing inflammation of the abscess, with its accompanying train of miseries and invariable fatality. Still that all this theory of causation is purely hypothetical, is clearly proved by a review of the several facts that are admitted by pathologists in relation to this formidable accident. It would be an

unwarrantable infliction on the profession did I venture to describe the symptoms and progress of a generic case of cyst inflammation; all these are, unfortunately, too familiar realities to require the tinted copy of the artist to renew the living picture of suffering that meets the surgeon but too frequently, in the wards of our large hospitals. I prefer contemplating the subject in that aspect only, illustrating the modification of treatment which experience leads me to enforce.

*Inflammation of the cyst of chronic abscess is not produced by the admission of atmospheric air into the cavity.* This proposition is rendered evident by the following facts:—When cervical abscess follows caries of the cartilages of the larynx, and an ulcerated opening creates a communication between the purulent collection and the air-passages, still there is no inflammation of the cyst. Again, a pulmonary vomica goes on increasing, until at last it communicates with a bronchial tube, a perfectly free current of air entering the cavity, but without the production of cyst disease. In pneumothorax the symptoms which supervene on the perforation of the pleura, the cavity of which becomes, to all intents, similar to a pyogenic surface, differ considerably from those attending inflamed cyst, whilst they should be of a similar character if the access of air was their common cause. In lumbar abscess inflammation of the cyst rarely supervenes on opening, even by a direct incision; and finally, the total absence of this accident, when the abscess is allowed to open spontaneously, indicates that this peculiar affection must be referrible to some cause differing from the circumstance to which, by common consent, it seems to be attributed by the most eminent authorities on practical surgery. To me the fact appears manifest, that to the mode of evacuation alone is due the production of this formidable disease; and my views of the subject will become intelligible by the examination of the morbid anatomy of the abscess. The psoas, from its points of origin to its insertion below the lesser trochanter of the femur, is uniformly surrounded by a dense fibrous envelope, which closely invests the substance of the muscle when, an abscess is fully formed in this locality; the muscular structure, at first unravelled, finally yields to the process of disintegration, until every trace of the original psoas disappears, whilst the sheath becomes thickened to the extent of half-an-inch, and lined by a soft villous cyst in close approximation, if not absolutely connected with a red vascular network, which forms the organic supply of the cyst yielding the material for purulent evolution. Imagine this cavity in a state of unvarying distention, the whole surface of the cyst subjected to a system of uniform

pressure from the contained secretion, and then conceive that at a moment the surgeon incises the tumour, and distention ceases suddenly; this pressure which regulated the vascular supply is removed by the violent evacuation of the matter, and the blood rushes towards the unsupported cyst, gorging the tissues, already debilitated by chronic disease. Should the surgeon have recourse to violent pressure to expedite evacuation, then the morbid change I have endeavoured to illustrate becomes a matter of greater probability, even amounting to certainty of occurrence. Now, there is a temporary vacillation as to the future progress of the case, marked by a cessation of secretion, for a period influenced in its length by the severity of the congestion which has supervened, and this excess of blood supply may subside by profuse suppuration, or may result in the more formidable specialty of inflammation of the cyst of the abscess. By "drainage," a slow but certain evacuation of the matter is insured, simulating exactly in its operation the effects of spontaneous ulceration, just so much of the purulent fluid escaping as directly corresponds with the collapse of the cyst, and the restoration of the surrounding parts to their normal position; and if this special mode of treatment was only applicable to the single case of psoas abscess, still its discovery would be an incalculable boon to the afflicted, and one calculated to enlarge the domain of surgical utility.

I have already alluded to the advantages derived from tubing in abscesses associated with diseased bone in various parts of the body, and venture to adduce one or two examples illustrating its curative tendency. An aged man suffered from abscesses over the sternum and left side, with sinuous apertures overlying carious bones; the usual concomitant hectic was also present in an aggravated form. After the introduction of tubing, repair set in with the greatest rapidity, with the extrusion of small osseous scales, which, under the old plans of treatment, would have remained for an indefinite period in a semi-detached condition. Again, a young man had suffered for five months from abscess around the shoulder-joint. Its motions were impaired with extensive swelling beneath the deltoid muscle, extending into the axilla; there was severe pain on the slightest motion, whether active or passive in its character, and a large sinus corresponded to the fissure between the great pectoral and deltoid muscles. The blunt extremity of the trocar, passed down through the fistula, revealed denuded bone in the site of the surgical neck of the humerus; it was now carried backwards, and made prominent behind, the canula being retained in its situation, the trocar was reversed, and a counter-opening thus

obtained; a single tube was subsequently introduced, and light dressing applied. For the first two days the suppuration was augmented, but from that period the swelling gradually subsided, and in nine days, when I ceased to observe the case, there was scarcely anything abnormal about the joint except the sinuses in the site of the tubes; all pain and even stiffness had disappeared, the patient expressing his gratification at the unlooked-for change, which seemed in this case to arise from the free outlet for secretion permitting the soft parts to approach the denuded bone, and thus to act as a substitute for the destroyed periosteum, conveying direct nutrition to the osseous surface. In cases where paronychia extends into the palmar region and up the forearm, dissecting the parts by diffuse suppuration, the introduction of several tubes creates the most marvellous benefits, by giving exit to the matter, and averting that pressure on the vessels which eventuates in the disorganization of the extreme structures; but I would not advocate the practice in the early stage of such affections, as it is only where purulent disorganization is excessive that the treatment becomes surgically applicable. Chronic bursitis yields readily to tubing, after the ordinary plans have failed to produce a cure; I have seen its practice in a number of the most unpromising cases attended with invariable success, and never productive of the slightest danger to the patient, and I look upon drainage as one of the safest and surest methods in the hands of the surgeon to solidify these chronic affections.

The further illustration of this particular mode of treatment, and its adaptation to special examples of disease, as hydrocele, necrosis, hepatic abscess, &c., would unnecessarily prolong this abstract, without conducing to any practical advantage or scientific object, as I conceive that sufficient evidence has been brought forward to induce the hospital surgeons of the Irish school, yielding to their practical tendencies, to adopt improvements, from whatever source they may originate, and to give a fair and impartial trial to the cure by drainage; whilst I have no doubt but that their unprejudiced testimony will still further enhance the deserved reputation of M. Chassaignac, a reputation founded not only on his character as a skilful and bold operator on the living, but also based on the higher mental qualifications which have placed him amongst the medical philosophers of France.

Art. XIII.—*On Anteflexion of the Uterus considered as a Normal Anatomical Condition*[a]. By J. Henry Bennet, M. D., Physician-Accoucheur to the Royal Free Hospital, London, &c.

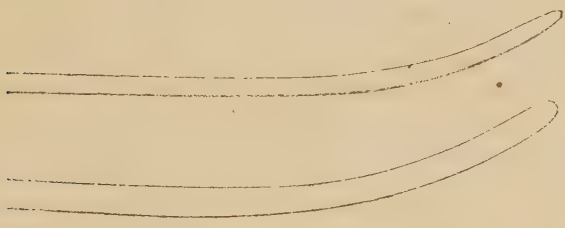
In the course of a series of investigations, undertaken some years ago, in order to ascertain the condition of the os uteri internum during life, I became aware that the uterine cavities, and the uterus itself, in women who have had no children, are generally more or less anteflexed, instead of straight, as universally described by anatomists.

That the uterus and uterine cavities have hitherto been considered to represent a straight, and not a curved, canal by pathologists, as well as by anatomists, is shown by the fact that the dilators and stem pessaries proposed and employed by M. Velpeau, Dr. Simpson, M. Valleix, and others, have invariably been made perfectly straight, under the impression, evidently, that they were thus adapted to the natural direction of the uterus. It is also proved by the fact that anteflexion of the uterus has universally been described as an abnormal and morbid condition. I must, however, except M. Huguier, the French surgeon, who published, a few years ago, a memoir in the "Bulletin de Thérapeutique," in which he described, as congenital conditions, various derivations from the normal standard of the uterus,—anteflexion amongst the rest. These congenital deviations, however, he described as accidental and exceptional.

My own researches were at first carried on merely with the view to determine the real value and importance of contraction of the os internum during life as a cause of sterility, Dr. Simpson, of Edinburgh, having forcibly drawn my attention, and that of the profession generally, to this question. I then found that in many cases where the uterine sound meets with resistance at the os internum, a small wax or elastic bougie passes with ease into the uterine cavity. I also found that when the woman has had no family, the bougie, if allowed to remain a minute or two in situ, all but constantly presents, on its withdrawal, a slight anterior curve; that is, a curve the concavity of which is turned towards the pubis. This curvature is evidently the reproduction of that which the uterine cavities and uterus present naturally. In some women child-bearing does not efface it, and it is still met with after one or more parturitions. The wax or gum-elastic bougie, on

[a] Read before the London Medico-Chirurgical Society, June 23, 1857.

hardening, retains the curve. It varies in different individuals within rather wide limits; but is generally no greater than is indicated in the accompanying woodcut; in some exceptional



cases, however, the curve is very much greater. It is not occasioned by the pressure of the bladder at the time of examination, as all due precautions were taken to prevent this cause of error; although this may possibly be the original cause of its existence.

The anteflexed state of the uterus is scarcely recognisable, under ordinary circumstances, by a digital examination, but, when decided, it is easily perceived. In the extreme and exceptional cases the anteflexion may be so great as to give the uterus the form of a crescent, the anteflexed fundus being turned towards the pubis. This natural anteflexion of the uterus is, no doubt, often rendered more evident to a digital examination by the physiological results of sexual congress, which tend to throw the cervix backwards towards the sacrum, and, secondarily, to antevert the body of the uterus.

The axis of the unimpregnated healthy uterus is generally considered to be that of the upper pelvic outlet; but if the anterior curvature now described is admitted, the axis of the upper portion of the uterus would not exactly correspond to that of the upper region of the pelvic cavity, but be rather anterior to it.

In the year 1853, a young French surgeon, M. Boullard, Prosector to the Paris Anatomical Schools, presented a thesis to the Faculty of Medicine, with which I have recently become acquainted. In this thesis M. Boullard has given the history of a series of researches, principally made on the dead, which fully corroborate the results that I have arrived at from the examination of the living. According to M. Boullard, also, anteflexion is the natural anatomical direction of the uterus,—that organ not being straight, as represented and described, but more or less curved, like a retort, with the conca-

vity anterior. M. Boullard finds this anteflexion or anterior curvature of the uterus is most marked in the fœtus, less so in the child, least in the adult; and that it ceases to be perceptible in most women who have borne children.

M. Boullard has given in his thesis sketches of the state of the uterus at the above-mentioned epochs of life, but I consider that he has rather exaggerated the anteflexion, especially in the fœtus and young child. I believe, however, with the French surgeon, that the anteflexion is more marked at these periods of female existence than later, although I am scarcely prepared to admit it to be as great as he represents it.

The fact of the uterus being normally anteflexed is not a mere sterile anatomical correction. It has a most direct and important bearing on the pathology and therapeutics of some forms of uterine disease. Thus, in the absence of all uterine mischief, anteflexion of the uterus, existing naturally and congenitally, may be accidentally recognised, and may be treated, most irrationally, as a morbid state. This is more especially likely to be the case if the uterus has been enlarged by acute or chronic inflammation, the anteflexion being of course rendered more evident by the inflammatory enlargement. The symptoms, in reality, occasioned by metritis, are in such a case attributed to the supposed morbid anteflexion; and if the practitioner is under the influence of the mechanical school of treatment, mechanical means for straightening the uterus are most erroneously, and often most injuriously, resorted to. I have seen patients, under such circumstances, martyrized for months, even years, by all kinds of mechanical contrivances, employed to straighten a uterus congenitally and naturally anteflexed.

I need scarcely add, that in cases of this description there is really nothing at all to be done but to reduce the inflammatory disease of the uterus, which exaggerates the (in reality) normal anteflexion, by increasing the bulk of the organ. As the latter becomes smaller and more natural in size, the anteflexion becomes less marked, but never disappears, for it is a natural condition.

I have not observed that the menstrual functions are interfered with by the existence of more than usually marked anteflexion, nor do I believe that females who present it are more likely to be sterile than others. In a few cases in which I have found the anteflexion to be carried so far as for the fundus and cervix to constitute a half circle, I have known the menstrual functions to be irregular and feeble; in these patients

however, it has appeared to me that the anteflexion was so exaggerated as to constitute a positive malformation; moreover, the vital powers generally were much below par. In several of these cases the most irrational efforts had long been made to restore to an imaginary standard of straightness the naturally incurvated uterus, under the erroneous impression that the curvature was morbid, and the cause of the constitutional debility.

Lastly, from the above facts may be deduced the practical surgical conclusion, that any sound or bougie, intended to explore or dilate the uterine cavities in a female who has not borne children, ought to present a curvature similar in degree to that which the natural cavities present.

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ART. XIV.—*Cases of Aneurism of the Popliteal Artery cured by Compression.* By R. R. GELSTON, L. R. C. S. I., Surgeon to the County Limerick Infirmary, &c. &c.; THOMAS H. BABINGTON, M. B., F. and L. R. C. S. I., Surgeon to the County Infirmary, Londonderry; and RICHARD SARGINT, M. B., L. R. C. S. I., Clonmel.

1.—CASE OF ANEURISM OF POPLITEAL ARTERY CURED BY COMPRESSION, BY DR. GELSTON.

JOHN CONNELL, aged 30, admitted into the County of Limerick Infirmary, Tuesday, June 23, 1857. Is a married man, by trade a scaffold-maker; he states that up to three months ago he always enjoyed good health, but about that period complained of some general uneasiness in his left leg, which gradually increased, and for the last eight weeks the leg commenced to swell; still he continued at his work until the 19th of this month, when he had to give it up, finding his leg powerless, and unable to be flexed on his thigh; that morning for the first time he discovered a swelling in his ham.

He had venereal about five years ago, but did not take mercury; and otherwise has always been a regular and temperate person; his appearance, although not sickly, indicates a want of power; he seems easily excited and nervous; he walks with a lame step, requiring the aid of a stick.

Upon examination I found the left popliteal space occupied to the extent of from 2½ to 3 inches in length, by 2 inches in breadth, by an evidently pulsating tumour, the expansion of which is felt latterly between the hamstring tendons; the pulsation is detectible by the eye, and pressure made upon the femoral artery in the groin empties the sac, and, if withdrawn,

it rapidly fills again; slight fremissement is felt by placing the hand gently over the tumour, but to such an extent is it discovered along the entire course of the vessel up to Poupart's ligament, as almost to lead one to dread that the internal coat of the artery must be roughened. It requires more than ordinary pressure upon the artery, even against the ramus of the pubis, before the pulsation can be entirely obliterated in the ham. This knee measures 15½ inches in circumference, the other one only 13½; there is a loud bruit de soufflet audible with the stethoscope. The whole leg is œdematous to a much greater extent than I have ever seen in an aneurism of its size, which is about that of a large hen-egg. The limb is of a white colour, and the superficial veins of it, as well as the thigh, are very turgid. I failed in detecting the articular arteries about the knee, as also the posterior tibial, but could feel the anterior tibial upon the dorsum of the foot feebly pulsating. Pulse 75; urine healthy; heart's sounds quite normal; skin cool; tongue clean; bowels confined. The glands in both groins are very much enlarged, more so than I have before seen where there was no evidence of scrofula.

Ordered a saline purgative, and to have the limb elevated upon pillows, so as to facilitate the return of the venous blood.

June 24th. Bowels moved; slept badly; pulse weak; evidently influenced by the alvine evacuation. Ordered five grains of saccharated iron, one grain of blue pill, and two grains of aromatic powder, thrice a day.

25th. This morning I received a note from Dr. Carte, to whom I wrote relative to the case, wishing him to send an instrument possessing any new improvements. In his note he says,—"To tell you the truth, I never like to see much œdema in such cases, as it always interferes with the pressure;" and he advises the use of the compound powder of jalap so as to purge the patient briskly, and thus try and lessen the œdema, and to elevate the leg above the level of the pelvis. I, therefore, directed the resident medical gentleman, Dr. Hunt, to give him, if his bowels were not acted upon by bed-time, half a drachm of compound powder of jalap; this he got, and on the morning of the 26th I found him much debilitated, bowels actively purged; pulse 65; nervous irritability present, as he had no sleep, and he complained greatly of pain in the tumour, as well as in the entire leg. The internal articular artery plainly discernible this morning, with considerable lessening of the œdema. Ordered eight ounces of chicken-tea, and to have an anodyne at night of the liquor of morphia in an ounce of camphor mixture. I placed a 4 lb.-weight on the artery in Scarpa's space, which

exercised so little control over the pulsation in the tumour that I then tried a 7 lb.-weight, which lessened the pulsation, and produced an entire absence of pain in the aneurismal tumour and leg, but caused, after a time, great turgescence of the veins in the thigh; this, *however, was not the result of pressure applied above the profunda, where the vein is not in such close contact with the artery.* Complains much of thirst.

27th. Œdema still less; external articular and posterior tibial arteries easily discovered; slept tranquilly; bowels slightly moved; pulse 60; nervousness much lessened; he removed the weight from the groin, finding it inconvenienced him, and applied it to *the tumour* itself; the pressure here equally caused a discontinuance of the pain; this I did not permit, fearing mischief to the sac might ensue, but I applied a *clamp* as high in the groin as possible, and controlled the current of blood, to such an extent as to give the patient ease from pain. Anodyne to be continued.

I never felt anything so distinct as the fremissement along the entire course of the femoral artery; there is no bruit discoverable in the heart, nor is the like condition to be felt in any other of the arteries.

28th. Temperature of the leg is sensibly lower than the opposite one; this I should have observed before; the bulb of a thermometer being applied to the ham of the left or unsound limb, indicated 90°, while that of the other reached to 93°. He sleeps well, and on the whole is more comfortable, and has experienced less pain in the tumour and limb, although the œdema is much greater, but this I consider is produced by the patient himself, who now, understanding something as to the mode of cure, kept up an imprudent amount of pressure with the clamp; this I at once removed altogether, and ordered him half a drachm of compound powder of jalap; lessened his fluids as much as I could, and gave him ten ounces of mutton-chop, instead of his chicken-tea. His diet now consists of eight ounces of bread, two quarts of milk, one pint of stirabout, and the mutton-chop. The aneurism has increased in size since his admission by nearly an inch, around the knee now measuring 16 inches in circumference.

29th. Less œdema present in the leg; ordered a purgative saline mixture.

30th. Slept very badly; is irritable; pulse 100; complains much of pain in the tumour, which he represents as never becoming less; bowels moved; aneurismal tumour is increasing in its lateral boundaries, attended with evident pulsation, as if the tumour was becoming diffused. To have one scruple of

liquor of morphia and one scruple of chloroform in an ounce of camphor mixture at bed-time.

July 1st. Bowels moved; slept well; less irritable; pulse 90; aneurism measures the same as on the 28th (16 inches round the knee). On the 26th a 7 lb.-weight alone exercised control over the pulsation, but on this morning I considered that some less amount of pressure exercised as much controlling power, due to the purgation, as well as his less irritable state, and having had a good night's rest. The œdema still continues, notwithstanding every means, mechanical as well as constitutional, having been resorted to. Carte's compressor having arrived, I applied it this morning at ten minutes to 11 o'clock A.M., screwing up the compressor not to the extent of preventing the current of blood from being received into the sac, but only rendering it perceptible to the touch.

2nd. Compressor continued at intervals; the longest time without interruption was over one hour; this only in the middle of the thigh, but in the groin it could only be borne for fifteen minutes at a time, in consequence of the enlarged glands of this situation. Dr. Carte having visited Limerick on professional business, saw the patient last night, and approved of what had been done.

6th. Nothing important since the 2nd. This morning he seems to have some considerable constitutional disturbance, accompanied by increased pain around the knee-joint, evidently produced by the enlargement of the collateral circulation; pulse 102. He refused the anodyne last night, and consequently slept badly; bowels slightly moved. The compression continued more or less during the day, but at night it cannot be continued; around the knee measures exactly 16 inches; relaxing the pressure in the groin removes the great pain complained of about the knee. To have one grain of powdered opium at bed-time. As I was obliged to leave town, he was visited by Dr. Carte at 8 o'clock, and, finding him somewhat feverish, he ordered saline draughts.

7th. Slept well last night, and is much less irritable this morning; bowels well moved; pulse 100.

8th. Aneurism increased around the knee; now measures $16\frac{1}{2}$ inches; slept well; irritability much less.

10th. Pressure by no means well continued, and the lateral pulsation before observed now very evident, but the tumour feels more solid, from the deposit of fibrine in the sac; the most forcible pressure will not obliterate a slight pulsation felt along the posterior wall of the sac; this, however, we con-

sider to be produced by an enlarged cutaneous vessel running in this situation. Ordered to take early in the morning half a drachm of compound powder of jalap. At my visit this evening, at 8½ o'clock, I found him apparently suffering the most excruciating pain all round the knee-joint; pulse 120; greatly excited, and most desirous of getting rid of the compressor, and wished me at once to resort to deligation of the artery; ordered him three grains of powdered opium in pill, and to omit the instrument for a few hours.

11th. Had no sleep last night, but in other respects is much more tranquil. Bowels well moved; bears the compressor somewhat better, but the moment that the current of blood is permitted into the sac the pain in the aneurismal tumour becomes perfectly insupportable, so much so as to require more than two men to keep him in bed. To have this evening two grains of powdered opium.

12th. Slept about three hours last night, and is very tranquil this morning; says he feels stronger. Had great pain in the sac occasionally during the day, which was greatly relieved by an evaporating lotion composed of equal parts of sulphuric æther and chloroform. Bowels not moved. To have early in the morning half a drachm of compound powder of jalap, and two grains of powdered opium at bed-time. At the evening visit, at 5 o'clock P.M., found him labouring under great pain about the knee-joint, and the aneurismal tumour seems much firmer and more circumscribed, owing entirely to the admirable way in which my son, Mr. T. Gelston, kept up the compression since 9 o'clock this morning. I visited him again this evening at half-past 8 o'clock, accompanied by Dr. Carte, when we found that all pulsation in the sac had ceased, and the patient was free from pain. To have his anodyne.

13th. All pulsation in the sac absent. Instrument removed for a short time, but applied again with a very moderate degree of pressure.

15th. Nothing new. The patient going on most satisfactorily; every particle of œdema has disappeared from the limb. The aneurismal tumour much more defined, measuring in its long axis 4½ inches, and in its width 3¼. All irritability has left him.

I do not think there was a continuous pressure of thirty-six hours kept up in this case; from its first application to the cure, it was never on for an entire hour at any one period, without being interrupted, and was off entirely during each night. Its unpromising features were many: œdema of leg and foot; en-

larged glands in the groin, attended with consequent difficulty of obliterating the pulsation, and which invariably returned after ten or fifteen minutes, either from the patient shifting, or from some abnormal condition of the vessel itself; the occurrence of lateral pulsation, the day preceding the application of Dr. Carte's compressor; very great fremissement all along the course of the femoral artery, to such an extent as to render the opinion of a diseased condition of the vessel the natural conclusion.

### 2. CASE OF ANEURISM OF POPLITEAL ARTERY CURED BY COMPRESSION, BY DR. BABINGTON.

Patrick M'Teague, aged 32, admitted into County Londonderry Infirmary, July 30, 1857. States he had been a post-boy for some years past; regular in his habits; but suffered from repeated attacks of rheumatism, or rheumatic pains, which were relieved by exercise. About six months since he was seized with a violent pain in his right leg, accompanied by a peculiar pulsation in the popliteal space; this commenced at night, and kept him from sleep; he attributed the attack to rheumatism, and sought relief from exercise, and applied warm stupes to the part. About three weeks after, he felt a small tumour, about the size of a bean, in the right ham, attended with continued pain and loss of sleep. The tumour enlarged gradually, and the pulsation became stronger, was accompanied by more pain in the leg, and constant want of sleep. His sufferings having so increased, he applied for medical aid and was advised to come to hospital.

There was a pulsating tumour in the popliteal space along the line of the artery, about the size of a turkey's egg, flattened; the principal bulk of the tumour was to the outside of the ham, but the whole popliteal space was nearly filled up. It was tolerably solid to the feel. He complained of a great deal of pain in the leg, particularly about the knee, and along the course of the perineal nerve. All pulsation through the tumour was effectually stopped by compressing the femoral artery over the pubis.

On the 20th August Dr. Carte's compressors were applied, one on the artery as it passed over the pubis, the other in its femoral course as indicated; pressure by either of these commanded the circulation, but he did not bear either of them long screwed down, particularly the femoral pad, which he said was very painful. He was in such a state of terror that we

could not induce him, or persuade him, to allow either to remain screwed home during the night. His habit was to wear either one or other screwed down, principally the compressor at the pubis (but alternated occasionally), from about 10 in the morning till 11 P. M., when I may say nearly all pressure was discontinued during the night.

On the 1st September we considered that he was making progress, and this notwithstanding that the pressure was not constant, and that, besides, the instruments to a certain extent were inefficient; however, the tumour was harder, more circumscribed, and we could move the tendons of the hamstring muscles distinctly on its surface. The limb was colder than the other.

September 15th. He complained of very great pain along the outside of his knee and down his leg; the tumour was harder, and we felt a small artery faintly pulsating on the surface of the tumour.

22nd. The tumour felt *softer* than heretofore, and the pulsation of the small artery was stronger, and the patient was more reconciled to his situation, but could not be persuaded to keep up continuous pressure throughout the twenty-four hours. I did not urge him very strongly on this point, as I considered the compressors very inefficient, and I daily expected new instruments from Fannin and Co. Matters remained in this condition, the limb being of course daily examined, but without any decided change, till the 29th September, when we found that the pulsation in the tumour had ceased. The patient alleged that while eating his breakfast the pulsation was distinct. *On my examination, about an hour afterwards, it had ceased.*

The compressing apparatus was kept on till Saturday, the 3rd October, as a precautionary measure.

### 3. CASE OF ANEURISM OF POPLITEAL ARTERY CURED BY COMPRESSION, BY DR. SARGINT.

Pat Toohill, aged 38, a man of highly nervous temperament, a gardener by trade, was admitted into Clonmel Union Poorhouse June 17, 1857, with popliteal aneurism of the right leg. On admission he stated that for a considerable time past he had suffered from a large lump at the back of his knee-joint, which prevented him from straightening the leg more than to an angle of about 45°, and which obliged him to give up his work, as he could not walk without the help of a stick. At times he sufferred from a good deal of pain in the leg and down to the

foot. He could not account in any way for the swelling, unless that in digging he might have strained himself. He had applied to a *quack*, who promised to cure him, and made him apply *poultices* "to bring out," as he said, "*a large worm which was in it.*"

On admission, the tumour was found to be as large as the closed fist, and was pulsating very strongly. It was greatly thinned towards the outer hamstring muscle. The heart and whole arterial system were in violent action, though, after a very careful examination, Dr. Scully (under whose charge he was admitted) and I were of opinion that there was not any organic disease.

Though considering this an unpromising case, yet we determined to apply compression, and accordingly, on June 18, one of Dr. Carte's compressors was placed on the limb, at the junction of the upper and middle third of the thigh, and as he could not bear the pressure for more than ten minutes at a time, we tried to extemporize another with a band of iron and a common tourniquet, but as this was found difficult to be kept in its place, it was determined to fit a second compressor.

June 19th. On laying a 7 lb.-weight on the artery, at Poupart's ligament, it was jerked off as if it were a cork. The patient being a strong healthy man, we thought it advisable to take twenty-four ounces of blood from the arm *pleno rivo;* this in a degree quieted the arterial action. He did not get much sleep, as he was constantly watching the instruments.

22nd. Having applied the second compressors to-day, the patient, who is an intelligent man, was taught how to alternate them, which he did very well. To have meat and milk diet.

27th. There has been some œdema of the leg, which is now nearly gone. He suffers no pain, unless when one point of pressure is kept too long.

July 1st. Has been very well able to sleep, and fully commands the pulsation in the tumour; yesterday and to-day he has felt a sharp, burning, pricking pain in the tumour and round the knee.

4th. Pulsation greatly diminished; the pain round the knee has been greater, and the smaller arteries are all enlarging. The tumour is greatly solidified, except at the outer thin portion, but even there it has a firmer feel.

11th. Has continued to improve. All pain round the knee has gone. There are two arteries over the thinner portion of the tumour, which pulsate strongly, and it is difficult with them to say whether there is any in the tumour itself; so we consi-

dered it a safe plan to leave on the instruments for a few days longer, especially as they had quite ceased to annoy him.

16th. No pulsation can be detected in the tumour, which is quite hard and firm, and is now not much more than half its former size. He can bend the leg much more than before. The action of the heart and arteries is considerably diminished. Compression removed.

18th. The tumour is rapidly decreasing in size. He was allowed up for a short time.

21st. Can walk about without any help; the leg nearly straight, and the tumour about the size of a small hen-egg; says he could use the leg as well as ever, but that he is a little stiff from being in bed.

[The cases of aneurism here detailed cannot but speak most strongly in favour of the treatment by compression. We are continually struck by the difference in the results of the recorded cases in this country and elsewhere. In Ireland, we may confidently say, we very seldom have a failure. In England and Scotland, on the contrary, not above 50 per cent. appear to have a happy termination. This is owing, we believe, to the want of attention to those minutiæ in the treatment which, in Ireland, are so fully observed. Even at the present time, after all that has been written on the subject, we find the treatment of aneurism by compression undertaken without any regard to the condition of the individual, or the form of instruments employed. This, we need hardly observe, cannot but tend to failure. The surgeon who undertakes the employment of any mode of cure should make himself familiar with its details, and provide himself with the means of carrying out the treatment properly. He should make himself thoroughly acquainted with the best authors on the subject, and employ the means they recommend. It was by this careful attention, it is sufficiently evident, that Drs. Gelston, Babington, and Sargint, obtained such successful results in the cases above detailed.—Ed.]

## Art. XV.—*Note by* Dr. Thorpe *to his Essay at page* 95.

Chloroform in Strumous Ophthalmia.—In my paper on Ophthalmic Hyperæsthesia, in the last Number of this Journal, I stated that, so far as I was aware, the inhalation of chloroform, as a remedy in strumous ophthalmia, and as a means of enabling the practitioner to examine the eyes in cases of intractable photophobia, was not mentioned in any standard work on ophthalmic surgery, nor in any recently published lecture on the subject. I find, however, by referring to the Medical Gazette[a], and to Mackenzie's Practical Treatise, last edition, 1854, the inhalation of anæsthetics recommended by that excellent practitioner, as a means of reducing inflammation in scrofulous and other forms of ophthalmia, of relieving photophobia, and of enabling the surgeon deliberately to examine the eyes and to make applications to them. I am not, therefore, as I believed, the first to put on record the employment of chloroform for the purposes referred to.

[a] Vol. xxix. page 1077.

# PART II.

## REVIEWS AND BIBLIOGRAPHICAL NOTICES.

1. *Eighth Report of the Inspectors on the District Criminal and Private Lunatic Asylums in Ireland.* With Appendices. Presented to both Houses of Parliament by Command of Her Majesty. Blue Book. Dublin: Alexander Thom and Sons. 1857. Folio, pp. 76.

2. *Eleventh Report of the Commissioners in Lunacy to the Lord High Chancellor of England.* With Appendices. Ordered by the House of Commons to be printed, July 7, 1857, in return to an Order of the Honourable the House of Commons, dated June 23, 1857. (Colonel Clifford.) Blue Book. 8vo, pp. 138.

3. *Report by Her Majesty's Commisioners appointed to inquire into the state of Lunatic Asylums in Scotland.* Presented to both Houses of Parliament by Command of Her Majesty. Blue Book. Edinburgh: Thomas Constable. 1857. 8vo, pp. 257; and separate Appendix to ditto, pp. 528.

4. *The Asylum Quarterly Journal of Mental Science.* Published by authority of the Association of Medical Officers of Asylums and Hospitals for the Insane. Edited by Charles Bucknill, M. D. Lond., Physican-Superintendent of the Devon County Hospital for the Insane. London: Longman and Co. Quarterly Numbers, 20, 21, 22, and 23, for the Year 1857.

5. *The Journal of Psychological Medicine and Mental Pathology.* Edited by Forbes Winslow, M.D., D.C.L., President of the Association of Medical Officers of Asylums and Hospitals for the Insane. Nos. 5, 6, 7, and 8, New Series, for the Year 1857. London: John Churchill.

6. *The American Journal of Insanity.* Edited by the Officers of the New York State Asylum. Nos. for July, 1856, and April, 1857. Utica: New York State Lunatic Asylum.

7. *Notes on Belgium Lunatic Asylums, including the Insane Colony of Gheel.* By JOHN WEBSTER, M.D., F.R.S. 8vo, pp. 68.

8. *Twenty-seventh Annual Report of the Belfast District Hospital for the Insane, to March* 31, 1857. By ROBERT STEWART, M.D., Physician-Superintendent. Pamphlet, pp. 47.

9. *Second Annual Report of the Sligo District Hospital for the Insane, to March* 31, 1857. By JOHN M'MUNN, M.D., Physician-Superintendent. Pamphlet, pp. 52.

10. *Sixth Annual Report of the Wilts County Hospital for the Insane, for the Year* 1856. By JOHN THURNAM, M.D., Physician-Superintendent. Pamphlet, pp. 43.

11. *Seventeenth Annual Report of the Crichton Royal Institution for the Insane at Dumfries.* By W. A. F. BROWNE, M.D. Physician-Superintendent. Pamphlet, pp. 44.

12. *Twenty-seventh Annual Report of the Aberdeen Royal Hospital for the Insane, to March* 31, 1857. By ROBERT JAMIESON, M.D., Physician-Superintendent. Pamphlet, pp. 26.

13. *Thirtieth Annual Report of the Perth Royal Hospital for the Insane, to June*, 1857. By LAUDER LINDSAY, M.D., Physician-Superintendent. Pamphlet, pp. 50.

14. *Report of the Pennsylvania Hospital for the Insane for the Year* 1856. By THOMAS S. KIRKBRIDE, M.D., Physician-Superintendent. Pamphlet, pp. 68.

1. WE commence our usual Annual Review of Insanity on the present occasion with the "Eighth Report" of the district and other hospitals for the insane in Ireland, which is brought up to the 31st of March, 1857, and extends over a period of two years. As we have but a limited space at our disposal, and several other important and interesting publications of similar purport to pay due attention to, we shall be compelled to be briefer in our notice of the one before us than we could wish; to render due justice to its valuable contents would of itself occupy all the room at our command.

*Origin of Hospitals for the Insane in Ireland.*—The Inspectors, after shortly referring to the Commission of Inquiry

now in operation in regard to the state of Lunacy in Ireland, and observing upon the varied business of their own department,—the same involving a correspondence of upwards of seven thousand letters in the year, together with frequent official inspections,—proceed to give a full history of the rise and progress of the accommodation for the insane poor in Ireland, from which we learn that the existing system of district asylums had its beginning with the 55 Geo. III. c. 107, under the provisions of which the Dublin, or, as it is commonly called, the "Richmond Asylum,"—in compliment, we presume, to the then Lord Lieutenant, the Duke of Richmond, as the Cork District Asylum was named the "Eglinton"[a] (it having been opened under the immediate auspices of that Lord Lieutenant),—was built and put into working order by Government, at a cost of £75,000, to serve as an hospital for the insane for the whole of Ireland, and to be supported by Parliamentary grants. The next step taken by the Legislature in regard to the care of the insane was in the year 1817, by the appointment of a Select Committee of the House of Commons to consider the expediency of making a general provision for the lunatic poor in Ireland, which resulted in the enactment that year of the 57 Geo. III. c. 106, entitled, "An Act for the establishment of Asylums for the Lunatic Poor in Ireland;" and since which so many as seventeen Acts have been added to the Statute-book connected with the insane in this country; the last one passed being the 18 and 19 Vict. c. 99, in 1856, commonly called Sir Robert Ferguson's, and having reference to the superannuating of officers of asylums.

After the establishing of the Richmond Asylum, nine provincial institutions were successively put into operation, the first being at Armagh, which was opened for the reception of patients in 1825; then Limerick in 1826; Belfast in 1829; Londonderry, 1829; Carlow, 1831; Ballinasloe, 1833; Maryborough, 1833; Clonmel, 1835; Waterford, 1835.

The above nine asylums were erected at a cost of £209,085 4*s.* for an aggregate number of patients amounting to 980, which was considered would have been quite sufficient to meet the wants of the insane poor of the country. But soon this was found so very fallacious a reckoning, that by interior ar-

[a] We observed in the newspapers lately, that a move had been made at the Board of Governors of this Asylum to designate the institution according to its locality, simply; and very properly, we think, as in the case of all the others, except the Richmond, which, having been built at the expense of Government, had some right to be thus particularized.—Rev.

rangements and without any additions, the 980 were nearly doubled, so many as 1930 being by these means accommodated within their walls. The pressure from without, however, became so great, that Parliament had again to be applied to in 1826, when the former nine districts were reformed, and additional asylums erected, upon which a further total of 1400 patients was enabled to be provided for in asylums.

*Cost of Asylums as at present in operation.*—The Report next affords a detailed statement, very interesting, no doubt, to grand jurors, boards of governors, and rate-payers, of the individual cost of each asylum, even to a fractional nicety, with which, however, we need not occupy our space, further than to state that the net cost of the district asylums, every charge inclusive, as they now exist (sixteen in all), amounted to £584,191; this sum not including certain abatements allowed by Government for defects in buildings, or a portion of the expenditure in connexion with the recent additions made to the Belfast Asylum.

*Commission of Inquiry respecting the Erection of Asylums.*—Reference is made to the proceedings of the Commission of Inquiry into the erection of Lunatic Asylums, the particulars of which we gave in our last Review, so that we need not now again refer to it. The following extract we give from the Inspectors' Report, clearly indicating the substantial benefits obtained by the rate-payers in their transactions with the Treasury in regard to the erection of the district asylums in Ireland:—

"Taking 4 per cent. as the minimum rate at which money could be obtained, even on the best security, it will be found that had interest been charged by the Treasury for advances, it would amount on the sums already repaid to £80,000, and to a similar sum in respect of the recent assessments. Thus, with the gift of the Richmond Asylum and the late remissions, to which may be added about £90,000 paid by Government for the support and maintenance of the old House of Industry patients, pauper lunatics belonging principally to Dublin and the adjoining counties, in Island Bridge and the Hardwicke cells, since Richmond was declared a district asylum, the country appears, on the whole, to have received a clear benefit to the extent of £350,000 in its transactions with the Treasury, on account of lunatic asylums."

*Statistics.*—The statistical portion of the Report is exceedingly elaborate and interesting. From it we collect that on the 31st of March of the present year the number of the insane of

all classes in Ireland amounted to 14,141, of which 6520[a] only were located in public and private asylums, gaols, and workhouses; the remainder, 7612, not being under official care. The Inspectors appear to have taken the greatest pains to obtain accurate data of this important branch of their Report, which is one very suggestive in its several bearings, and worthy of the deepest attention. Their labour must have been considerable when we find that they succeeded in getting the "name, age, address, and religion, of every individual in Ireland, whether lunatic, idiot, or simply epileptic." It appears that of the latter class (the epileptic) 2171 have been reported to the Inspectors, who for the most part are capable of free agency, which, deducted from the 7612 not under any cognizable treatment, would reduce the number requiring direct supervision to 5441.

*Insane Patients in Workhouses.*—The Inspectors continue of opinion, and we entirely agree with them, as to the great impropriety of the insane of any denomination being located in the union workhouses. This is altogether wrong, and both public and professional feeling is unanimous for its discontinuance. On this head the Report very judiciously and truly observes:—

"It would be falling into a great mistake to imagine that even the most miserable objects of mental incapability are beyond the reach of being relieved; for there is no species of disease or affection, from the highest state of maniacal excitement to the very lowest grade of imbecility, that does not admit of cure or amelioration under judicious treatment, such alone as can be obtained in establishments exclusively devoted to the object."

But we decidedly differ from the Inspectors' plan of providing for the class of cases at present in the workhouses of Ireland, namely, in "auxiliary buildings" in immediate connexion with the existing asylums. On this head we have more than once fully stated our views, which are simply, that entirely distinct and separate establishments (inexpensive as may be) should be provided for such, as well as for the altogether hopeless cases in our public asylums; thus leaving the latter "free" (to quote from the Report) "to exercise their proper and legitimate functions of hospitals for the cure of insanity, instead

[a] We find a slight discrepancy here, as, further down in the Report, the separate numbers, added together, of those under restraint, viz.:—In public asylums, 3856; Central Asylum, 126; Hardwicke cells, and Lifford local Asylum, 108; private asylums, 462; gaols, 175; poor-houses (workhouses?), 1799, produce a total of 6526, being six more than this number.—Rev.

of being mere receptacles for the safe keeping and maintenance of chronic cases."

*Cost of Patients' Maintenance.*—The average maintenance charge per head, for the last two years, of the inmates in the district asylums, was only about £20, which must be considered extremely moderate—perhaps too much so—to render full justice to patients so peculiarly circumstanced and unhappily afflicted. Highly taxed rate-payers, and parsimoniously inclined Boards of Governors, would not, of course, think thus; but, looking, as we do, at this important point of detail in a professional and philanthropic point of view, we are almost afraid that too much stress is apt to be placed, and too much official approval bestowed, upon the lowest figure at which the poor insane can be maintained; and that it is too generally overlooked how false and expensive that system of economy is, which would stringently tie up the hands of those immediately charged with the care and treatment of the insane in our public asylums.

*Hygiene.*—The sanitary condition of the district asylums, during the two years embraced in this Report of the Inspectors, was, on the whole, most satisfactory and favourable. The aggregate of recoveries appears to have been 17 per cent., or $37\frac{1}{2}$ on the admissions; the relieved, $11\frac{1}{2}$ per cent.; and the mortality so low as 9 per cent., being 1 per cent. less than in the preceding biennial Report; and no epidemic since 1853,—a very conclusive proof that their internal and hygienic management deserves a large share of commendation. But two cases of suicide occurred during the above period, which must be considered surprisingly small, and another speaking fact of unremitting attention on the part of the attendants.

*Physical Restraint.*—On the subject of mechanical restraint the Inspectors thus wisely, and to the point, deliver themselves:—

> "This question is one more properly for the judgment of the local medical superintendents; and as we believe they are alike influenced by the most humane motives, and a desire to do what is best for the safety of their patients, we would deem it unadvisable, on our part, to lay down any *fixed rule* on a system which is at issue between enlightened practitioners, and which, further, there is *no authority to enforce.*"

The italics here are our own, and we could only wish that certain other "Commissioners in Lunacy" had manifested equal judgment on this and other matters of detail in the daily conduct of asylums.

*Occupation of Patients.* — Husbandry for the males, and laundry work, with spinning, knitting, &c., for the females, are the principal means of employment in our public asylums. With regard to the men, it appears that a daily average of 422 worked 421 acres, the sum in money realized thereby being £4167, exclusive of the value of produce in vegetables consumed in the several establishments, which is clearly a very satisfactory *financial* result, though, of course, the primary object in employment should be the mental and physical health of the patients themselves.

*Pay Patients.*—Though entirely opposed to the letter and spirit of the laws regulating the management of public asylums in Ireland, a practice has sprung up, it seems, of late years, in some of them, to admit patients for payment. During the past year alone, the sum of £736 was thus illegally obtained. We have felt it our duty earnestly to remonstrate in our annual Reviews against mixing up institutions, solely set apart by the Legislature for the "lunatic poor," with a paying class of inmates. We have no hesitation in stating that the principle is bad in every point of view, and we hope that the attempt which is being made to establish admissions of this kind by Act of Parliament will not succeed,—the good sense of the Legislature rejecting the proposition again, as on a former occasion. It is astonishing how, for one moment, any number of sensible men could suppose that a pay class and a pauper class of patients could be harmonized in the one institution, sitting down together at the same table, and in all respects, except in regard to clothing, to be treated as one and the same class. This, however, is the proposal which has been gravely submitted to Parliament, but it only shows that those making it have no experience in the practical working of such peculiarly circumstanced establishments, in which everything should be endeavoured to be made as suitable as possible, and not as antagonistic, as this movement would appear to portend. The Inspectors say that—

"On principle they are opposed to the maintenance of paying patients in district asylums; still, from motives of common humanity, in the absence of a suitable refuge for the insane members of humble, but respectable families, and where there is a good margin of vacancies, as at Mullingar, Killarney, &c., it would be hard to debar a fellow-creature of a public establishment."

Now we have again and again shown, that the members of respectable families, when the subjects of insanity, are not debarred from the advantages of the district asylums, into which

they are equally easily admitted and eligible as the poorest, on an affidavit being made that the means of paying for them in a private asylum are not to be commanded, which we maintain is all that is required, and that no new-fangled legislation on this head is at all necessary. Intermediate asylums between public and private ones are what are loudly called for; those in which "the insane members of humble, but respectable families," could be placed and supported in some measure according to their previous status in society, at a moderate cost. Clerks, governesses, &c. &c., should, most assuredly, have a refuge above a pauper asylum when unhappily the subjects of mental disease; and if philanthropic parties would turn their attention to something practical of this kind, they would indeed be conferring a substantial benefit, in a way of all others which would be eminently humane, and productive of the best results.

*Religious Ministrations, Education, &c.*—The Inspectors next make a passing reference to "religious ministrations" by paid chaplains, which they, of course, continue to advocate, as in duty bound; to the degree of "education amongst the insane," which they state is in a higher ratio with the inmates of public asylums than in the general population; to "religion" as an exciting cause of insanity, considering it an agent not so powerful in that respect as is supposed, and in which we are inclined to agree; that "love from misplaced affections, particularly in the female sex, is a much more fruitful source," as a moral cause, of bringing this disease into action. They are of opinion that, from the extended inquiries they have instituted, and making every allowance for facilities of admission into asylums, that insanity must, on the whole, be considered to be on the increase, which, however, we ourselves think is still problematical.

*Incurables.*—That the district hospitals for the insane in Ireland are not in a worse position, as to chronic cases, than the institutions for the insane in the sister country, over the Continent of Europe, and in America, the Report plainly shows, as well as that this result in the treatment of the disease is inseparable from the nature of lunacy; and further, the Inspectors might have added, that the objected to "incurables" in our asylums are just as much the bounden objects of the nation's care and comfortable position as recent cases, though without any hope of being ever again restored to society. Still, their existence under due treatment can be, and is, made comparatively useful and happy, and their affliction, to a considerable degree, greatly ameliorated. The Inspectors, in the following extract, show how very inconsistently the local public

bodies in Ireland act in regard to these, in their eyes, very troublesome "incurables:"—

"Lunatics would seem not only to stand themselves, but occasionally to place some of those connected with them, in an anomalous position. The governors of asylums, for instance, complain that the institutions are congested with incurable cases,—the very same men acting as boards of superintendence of gaols find fault with lunatics being placed in prison, and endeavour to hurry their transference to asylums, no matter what the character of the disease; and as poor-law guardians object to the residence of insane persons within the walls of a workhouse, availing themselves of the first opportunity to have them committed to gaols as dangerous. Expense is prominent in the eyes of the asylum governors; the subversion of prison discipline, to boards of superintendence; and a troublesome inconvenience to poor-law guardians. We concur fully in the sentiments of the two last-named Boards, and would disembarrass gaols and workhouses of all lunatic inmates; and, partially agreeing with the asylum governors, we would meet the difficulty of expense by the plain but suitable buildings we have already adverted to, establishing one authority for the moral, curative, and fiscal management of the insane generally."

*Salaries and Superannuation Pensions.*—To the subject of insufficient salaries and the superannuation of officers of asylums, the Inspectors in this Report earnestly direct the attention of Government, as they had repeatedly done before, and this greatly to their credit; but though they have always fulfilled their duty in this respect honestly and strongly, yet the point at issue might be urged by other than parties who are not themselves Government officials with increased force, and more especially against the unasked-for Act of last session, regulating superannuations; an Act which was considered more a mockery than even an instalment of what was due to those hard-worked and ill-remunerated officials; for of all other departments of the public service, the labour, the responsibility, the anxiety, the personal risk, they are constantly subject to in the discharge of their arduous and never-ending duties, should obtain for them much more liberal salaries than they receive, and fairly *entitle* them to their full allowances on retirement, after an ample service, say of twenty-five years as the maximum. On this point the Report truly says:—

"That provision should be made for the officers of district asylums, as elsewhere, when worn out by age and length of service, is but just and reasonable, and on principle has been ever advocated by us. We know no duties so onerous and so unceasing as those connected with the management of the insane, entailing at all hours

the same anxious responsibility. As the labourer is worthy of his hire, a liberal recompense when engaged on service, and the certainty of a commensurate allowance on retirement, is but a reasonable expectation; and we cannot but think that the staff of lunatic asylums in this country, as a body, are not only underpaid when on duty, but that an exceptional rule should be made in favour of deserving officers who, growing old in them, are rendered unfit for after-employment by previous habits, professional or other. Take, for example, the medical superintendents, restricted to a sort of cloister life within the precincts of an asylum,—men of education, enlightened views, and varied acquirements, their hours devoted to the good of the helpless and afflicted, and compare their salaries with those paid to the members of other professions, who are certainly not superior in knowledge, and whose sphere of action, though useful and necessary for the well-being of society, is not directed to the attainment of a higher or more important object than that of the individual who labours to ameliorate the condition of his fellow-creatures, under the heaviest and most dreaded visitation to which mankind is liable."

*Charges against Superior Officers.*—To be a servant of the public, and especially when that service is confined to, and rendered within, the four walls of a public establishment, and that establishment of all others peculiarly delicate in its duties and responsibilities, is, most assuredly, a trying post. The resident physicians of the district hospitals for the insane are a class of officials intrusted with most confidential and complicated duties; they are held responsible for the good working of the entire of their respective establishments. They are required, at least, and supposed to exercise, full control, or paramount authority, as the Lunacy Commissioners in England so well express it, over the other officers, and yet they are not, in many instances, given the means of doing all this; but if anything goes wrong, —if any screw becomes loose—they are nevertheless immediately called to account and liable to censure, for whatever the offence or shortcoming may be, and this notwithstanding that their own hands may be so tied up as to be totally helpless in preventing abuses. They, for instance, are accountable for the female as well as the male department of the asylum, and yet on that side of the institution an *imperium in imperio* is endeavoured to be carried out by the matron, who presumes to arrogate to herself entire control therein, and considers it a kind of compliment, forsooth, that her superior officer, the resident physician, should enter her premises, or exercise any authority, when he deems such called for: the natural consequence of having in our public asylum *lady-matrons*, exercising an independent power in their own department We have more

than once denounced this most pernicious system, which is so destructive to that unity of action that should be the beginning, middle, and end, in the daily management of our hospitals for the insane. Look to what occurred in the sister country, owing to the existence of this matronly exercise of authority and separate jurisdiction under the same roof. Bethlem Hospital was reduced to almost a state of anarchy, and insubordination proceeded to so great a height, owing solely to the matron assuming chief authority, that its conduct ultimately became so notorious as to require a special inquiry, the result of which was, that innocent parties were involved in the matron's usurpation of authority, and who, as part of the holocaust that an outraged public demanded, had to resign their situations, to give place to a new *regime* being instituted, and full authority vested in the hands of the resident physician. Then, disorder gave place to order, and peace and harmony have ever since continued to reign in that institution. Again, in the Worcester Asylum, owing to the matron's annoyances and interferences, she so weighed down a sensitive mind as unhappily to produce suicide, and lose to that institution the services of a most accomplished and eminently qualified resident physician, who could no longer brook the indignities he had, in this way, been subjected to. Why have we made these remarks? They have been elicited in consequence of the annexed extract from the Inspectors' present Report, according to which it will be seen that our asylums in Ireland have not passed unscathed out of the matrons' hands; and that in two instances attempts were made, as in England, to sacrifice the responsible heads of the asylums to their offended dignity, but happily were signally frustrated in both. The extract is as follows, the only further remark upon which we shall make is, that nothing could more clearly show what we have advocated before in these annual notices, that the matrons, like all the other secondary officers, should be appointed by the resident physician, and entirely subjected to his control, or otherwise we may expect frequent re-enactments of similar and worse proceedings than are here depicted:—

"It is our duty to state that two instances occurred of charges having been brought by officers against their superiors. The first was at Maryborough, when, after a preliminary inquiry at the local Board, the Inspectors were requested by it, and subsequently directed by your Excellency, to institute an investigation, for which purposes they visited the Asylum specially.

"When called upon, however, the matron, who had preferred the charges, begged to be allowed to withdraw them. Neither

knowing their truth herself, nor being able to substantiate them by witnesses, she frankly confessed that they were grounded solely on hearsay.

"The particulars of the case having been duly submitted, your Excellency was pleased to direct that a letter be written to the Resident Physician, intimating that no imputation whatever rested upon him; that his character and fitness for the responsible office held by him remained wholly unimpeached; and that the matron should be cautioned to be more guarded in her statements for the future. The second took place at Mullingar, where, as it appeared, the accusations made were not only groundless, but vindictive; the complainant was dismissed by order of Government, on a unanimous resolution of the Board."

*Successful Results.*—The Inspectors bear the fullest testimony to the generally successful manner in which the public hospitals for the insane in Ireland have been carried on since their foundation, as well as to the entirely humane and benevolent treatment by which they have been characterized, "not being sullied with the imputation of a single act of cruelty, save in one instance, where an attendant was prosecuted to conviction for maltreating a patient;" and pointing with commendable pride to what we have ourselves before drawn attention to, which is here positively stated *ex cathedrâ*, that from their first commencement, forty years ago, the non-restraint system—so much vaunted in the sister kingdom, as if there first thought of and practised—was acted upon by an order of the Lord Lieutenant and Privy Council, and has been continued steadily to the present time; that order directing that the utmost latitude of personal liberty consistent with safety, mildness and the avoidance of every cause of irritation, should be the constant daily practice observed within them; in fact, what has invariably been the case, that mechanical restraint, even in its minimum amount, should be the exception, and perfect freedom the rule pursued towards their inmates.

*Deficiency of Furniture, &c.*—The local boards of governors, the Inspectors state, are chargeable with an excess of economy in the internal fittings and furnishings of their respective establishments. This species of parsimony is decidedly bad and reprehensible. We all know and appreciate the comforts of a well-appointed home; and although a class of persons not usually accustomed to the most ordinary decencies of civilized life in their own abodes, occupies our public establishments for the insane, yet it ought to be held in view that one of the principal objects in their treatment should be to elevate their degraded social status in every possible way; and a more tangible means of doing this could not be had re-

course to than by having all the arrangements of our asylums made pleasing to the eye, and so appointed as to create new sensations, thus diverting the insane patient from his morbid train of associations, and inducing a more healthful action of mind. Too little attention, we fear, is in all instances paid to this important matter of detail in Ireland. The common excuse of governors who, for the most part, know nothing of a subject upon which they take on themselves to be sole arbiters, is, "Oh! they were never accustomed to comforts, and why should we indulge them with what they never had at home, and could not enjoy even were such at their command?" But the force of this we altogether deny, and in candour are obliged to confess that the district asylums in this country are far behind the age in their internal appointments, being cheerless and bare-looking to a degree, and only too much calculated to give occasion to strangers to shrug the shoulder, and carry away with them an unfavourable impression of our philanthropy and genuine desire to ameliorate, by reasonable physical indulgences, the condition of the insane poor. Whereas the expenditure of a comparatively small sum yearly in material comforts, and some even of the little refinements of private life, would give quite a different tone to our institutions, and raise them both in usefulness and in general estimation. We are, accordingly, very glad to find that the Inspectors have not passed by the deficiencies we have been alluding to, but have referred to them so unmistakably, that if the local boards of governors do not take the hint now given to them in the annexed extract, and put their asylums in more complete order by being a little less parsimonious, they need not be surprised if their *prestige* shall be materially affected thereby. The Report on this subject states:—

"The cost of erection of these various institutions has been already given in detail; and we would now only observe, that the governors of them, apprehending the assessment which for a certain time must be levied to meet Treasury repayments, consider it a duty to restrict in every possible way all expenses save those absolutely requisite, and not to replace fixtures or furniture, even though objectionable in their eyes, till completely worn out. We think, however, that economy may be occasionally carried out to an unprofitable extent; and that stopping short, and not efficiently following up a regular system of management, would be almost as bad as not to have undertaken it at all. Our domestic arrangements may not be on an equality with those in many English asylums, which, too, may be similarly inferior in regard to what obtains in France and elsewhere, for local circumstances produce their relative differences. Generally speaking, a deficiency of furniture, and



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with it a certain air of discomfort, is noticeable in Irish institutions for the insane, a want which, we trust, with the advancing prosperity of the country, will be gradually obviated."

*Dangerous Lunatics.*—As we proceed in our analysis of this excellent Report, we observe that the Inspectors very properly and strongly animadvert upon a growing abuse in this country, that of committing insane patients to the county gaols as "dangerous lunatics," prior to their transference to a district asylum by warrant of the Lord Lieutenant. It is surely high time for the authorities to bestir themselves in the prevention of so great and serious an evil as this one undoubtedly is, and had recourse to frequently, there is much reason to believe, by interested parties who wish to save themselves the trouble of obtaining admission for their relative or friend, as the case may be, into an asylum in the usual way; and besides, having thus accomplished their object, they are freed from all further responsibility in the case. It would appear, too, that there is little or no control with respect to those committals, and that so many as eight or nine are returned to the Inspectors' office by the same post, Dublin alone sometimes producing four or five such in a single day.

*Dundrum State Asylum.*—The Central Asylum at Dundrum, the Report before us observes, continues to maintain its high character for usefulness and superior management, under the excellent superintendence of Dr. Corbet, its most benevolent and painstaking Resident Physician, since the period of its coming into operation in 1849. It contained a population of 82 males and 44 females at the date to which the Inspectors' Report is made up, viz., the 31st of March last. The discharges and deaths for the last two years were 26, of whom 21 were males, and 5 females. Of those discharged, 14 were recovered, 7 of whom were liberated by order of the Lord Lieutenant; 3 were remitted to gaol for trial; 3 (convicts) were returned to the prisons whence they came, 1 as a prisoner to a county gaol, 1 to a private asylum; and 11 died. The particulars of several very interesting cases of its inmates are related, which we regret we can do no more than simply call attention to.

*Private Lunatic Asylums.*—The Inspectors' Report informs us that there are 14 private asylums in Ireland; 9 of which are located in the immediate neighbourhood of Dublin, containing, on the 31st December last, divided amongst them, 359 patients; and the other 5 in the provinces, viz., 1 in Ulster, at Armagh, containing, on the above date, 24 patients (14 males, 10 females); 3 in Munster, 2 of which are

near Cork; 1 with 19 (11 males, 8 females); the other with 32 inmates (22 males, 10 females); and 1 near Limerick, with 8 patients (5 males, 3 females); and 1 in Leinster, Queen's County, having 20 patients (12 males, 8 females): thus making a total number of patients, in private asylums, of 462 (252 males, and 210 females). The professions, &c., of the males were as follows:—Army, 23; navy, 5; church, 24; law, 20; medicine, 7; students, 14; traders, 37; farmers, 29: no occupation, 253. Total in asylums, 462. The cured amounted to 47 (24 males, 23 females); the deaths to 26 (11 males, 15 females). One of the private asylums in Dublin is the celebrated Swift's Hospital, which contained within its walls, on the 31st December, 1856, 148 patients (76 males, and 72 females). Its discharges in recoveries numbered 1 only, a female; its deaths to but 7, which was a singularly low mortality. It is stated, as a remarkable fact, that the per-centage of recoveries in private asylums is greater among females than males, which is accounted for in the following manner:—

"There exists a greater recuperative power among females admitted into private asylums than among males,—the reverse being generally the case, though not to the same extent, as regards public asylums.

"Our experience would refer the explanation of this discrepancy to the fact (at which we have arrived after a careful analysis of the many thousand cases of lunacy which, from time to time, have come under our notice), that while moral causes, such as grief, love, anxiety, disappointment, &c. &c., more largely predispose females of the better classes—from their superior education and more refined sensibilities—to mental disease, provided there is no fixed hereditary tendency to insanity, time, quietude, and, above all, absence from the immediate exciting causes, gradually effect a cure."

The sanitary condition of the several private asylums appears to have been excellent, and their general management to have met with the Inspectors' fullest approbation. But one accident occurred during the year, that of a male, who died the next day after dropping himself the previous night from his window, with the view of effecting an escape. On a post-mortem examination a rupture of a bloodvessel in the liver was discovered, which previously had been in a diseased state. No blame whatever could be laid to the charge of those responsible for his care.

The non-restraint system in its entirety is generally practised in the private as in the public asylums in Ireland. In a very few instances mechanical restraint is had recourse to in the former, in its mildest form. A very extraordinary and perplexing case

is related of a female in the Midland Retreat Asylum, who made strange and innumerable attempts to effect self-destruction, and respecting which the advice of the Inspectors was sought as to the best means of dealing with, no restraint being permitted in that Asylum. Without any disrespect to the sound advice which, no doubt, the Inspectors could have given, we would have acted upon our own responsibility in the emergency, in doing what we considered best under the circumstances, and not have troubled them on the subject. Some deviations from the Private Asylums Act are noticed by the Inspectors as having occurred on the part of proprietors. One was, that of having more patients than licensed for, which subjected the proprietor to a prosecution for a misdemeanor; but the matter having been satisfactorily explained, no prosecution was instituted. Other neglects consisted in not giving notice within the prescribed time (two days) of the admission, discharge, or death of a patient,—a provision of the law admitted by the Inspectors to be too stringent, and calling for amendment. As a whole, the private asylums in Ireland bear a high character, and, with but two or three exceptions, their proprietors are respectable members of the medical profession (which we consider should unquestionably be a *sine qua non* for proprietorship); and, we are happy to add, none are conducted by *females*, as is the case in similar establishments in England and Scotland. The subjoined extract on their present condition will speak for itself:—

"Altogether, our private asylums are, we are happy to say, steadily improving. For, however deficient a few may be as yet, in some respects (and amongst others, we regret to state, not only in neatness, but also in the essential quality of cleanliness, in regard to which we have observed, now and then, grave cause of complaint), still, each succeeding year produces its favourable change in them; and if their present domestic arrangements were contrasted with those that obtained some short time back, we are satisfied a benevolent mind could not fail to find ample cause of gratulation. We have had to deal, in many instances, with proprietors originally without capital, and with patients paying irregularly as to time, and indifferently as to amount. Thus some private asylums might be fairly regarded in the light of so many necessary evils, as in their absence a majority, perhaps, of their unfortunate inmates would be absolutely neglected. Nevertheless, we feel fully enabled to state, that they have at all times been free from the imputation of the existence within their precincts involving personal cruelty,—which is more, perhaps, than can be said of some institutions of a similar kind elsewhere. We beg to assure your Excellency that it has been our unceasing endeavour to obviate, as far as lay in our power, such

faults, deficiencies, or instances of neglect towards the inmates of private licensed houses as have come under our observation, and which, but for our interposition, would have remained, perhaps, altogether unheeded; for it is a melancholy fact, and one redounding not over-much to the credit of human feeling, that many a poor helpless lunatic, placed within the walls of an asylum, is too frequently forgotten, and, mayhap, the visitation of Providence, in its wisdom, on the parent or sister, deemed a family stigma by the child or brother."

The annexed paragraph on "moral insanity," we are sure, will be read with much interest: all having had the least experience in the treatment of the insane must at once admit its great force and truthfulness:—

"As formerly, so within the past year, cases of moral madness, originating in drink and dissipation, have been frequently admitted into private licensed houses. Some of them, discharged after a few months' confinement, were not since readmitted, whilst others have been brought back. These latter cases are most perplexing; even after the lapse of a few days the salutary effects of control are visible in their regard; once free, however, they become the mere children of impulse, reckless of personal respect, regardless of the value of money, and scorning even decency itself. Rational in conversation, and most plausible in manner within the asylum, their conduct is displayed out of doors in a series of the most irrational actions. It is painful to keep such parties confined, but still more so to let them run at large to certain destruction. As an illustration, we may adduce the case of a lady, at present in confinement in a private licensed house, who has been admitted and discharged four or five times within our knowledge, and who, when at liberty, and mistress of her allowance, spends it in one continued orgy [?] of drink and dissipation. We may here observe, that a characteristic of this class is, at all times, an utter disregard of truth, together with an unceasing desire to impose upon the credulity of their hearers by the most specious pretensions to sense and wisdom, and the most solemn promises that a future morality would efface the errors of their past life."

*Intermediate Asylums.*—In a preceding portion of this Review of the Inspectors' Report we have referred to the necessity of asylums for a class of patients neither rich nor poor, instead of endeavouring to bungle the matter by placing them as "pay patients" in the district asylums, to the great detriment of the latter, besides being a "cruel kindness" to the former in associating them with a class altogether different in the social scale. We are now rejoiced to find that the Inspectors themselves agree with us on that really important point, as this extract from their Report shows:—

"Heretofore we have had frequent cause to observe the want in this country of asylums adapted to meet the exigencies of a large class, against whom public or pauper district asylums may be regarded as practically closed. We refer to the community of shopkeepers and farmers, who have means sufficient, under ordinary circumstances to place their families beyond the reach of want, but not adequate, when their relatives become insane, to pay for the maintenance of the latter in private asylums. In some few cases of great urgency the governors of district asylums have admitted 'paying patients' at the ordinary cost of maintenance, but this has occurred in those establishments where there existed no pressure for room. We trust that some foundation, whether through the benevolence of private individuals, or by a speculation which, originating in motives of Christian charity, cannot, in the end, fail of success, will, at no distant period, be established. We are the more sanguine in these hopes, as we understand that a bequest of many thousand pounds has been already made for this most laudable purpose, to a committee of gentlemen, and that an institution capable of accommodating thirty lunatics, at an average cost for maintenance of twenty guineas per head, will be speedily opened under their direction, assisted by a religious sisterhood."

In the "concluding remarks" of the Report the Inspectors recommend that existing district asylums, having been put into full repair, and furnished with water-closets, lavatories, workshops, &c., should be constituted hospitals for the treatment of mental disease in its early stages, as well as "receptacles for lunatics, no matter how hopeless their recovery, but who for their own or public safety require a constant and careful supervision." In this we quite agree with the Inspectors. It is what has been respectfully and earnestly suggested over and over again in these Annual Reviews on Insanity, and it affords us much pleasure to find that the Inspectors now bring the just weight and influence of their official position, as important Government officers, in furtherance of so very desirable a change. And again, their recommendation of—

"Disembarrassing poor-houses of all lunatic inmates, and existing asylums of the idiotic and epileptic classes, who are at present supported therein at a large expense, and without any commensurate hope of benefit, by allocating them in plain structures, but still well devised for the object, where quiet and chronic patients might find a refuge, placed under the same central control as the acute and dangerous just referred to, with a scale of dietary and social comforts beyond what are conceded to the ordinary paupers of a Union; having ground for exercise and employment, and their support provided for, as in the primitive houses, by quarterly advances from the Treasury"—

is exactly our opinion, being manifestly what the "pressure from without" so urgently and loudly demands.

That the appointment of the principal officers of the district hospitals for the insane, and the fixing of their salaries, should rest exclusively in the hands of the Executive, as always has been the case, and as now advised by the Inspectors, there cannot be a second opinion; the Report very forcibly observes, on this head, that the Government has "a larger sphere from which to select efficient persons, and of suitable qualifications; for without a competent staff to carry them out, laws or rules, however excellent in themselves, soon practically deteriorate," than which nothing could be truer or more to the purpose. And here we feel called upon honestly and candidly to inform his Excellency the Lord Lieutenant of Ireland, that his recent handing over of his admitted power to a local board of governors in the selection of a resident physician, however well intended on his part, has been considered a very serious blow and great discouragement to the independence and good working of those important institutions, and that a precedent of a most dangerous kind was thus made: one which, however, we sincerely hope will not again be *voluntarily* repeated. With reference to the individual status of the members of local boards of governors, which is a matter of the highest moment to the continued advancement, comfort, and well-being of our public asylums, the Inspectors justly say:—

"Of the present system of management through governors, subject to certain modifications, on the whole, we cordially approve, believing that gentlemen of education, rank, and position, whose acquaintance with fiscal affairs, and personal interest in the well-being of the country, afford the best guarantee for the due and economical expenditure of its rates, are the most suitable persons to appreciate the peculiar claims of the insane on the benevolence and liberality of the public, as well as from the fact, to which we can personally bear the most gratifying evidence, that a question of party or religion was never mooted within the walls of an Irish Asylum."

The necessity for condensing the laws relating to lunacy in Ireland closes the Report of the Inspectors, and is thus well put before the Executive:—

"With regard to the subject matter contained in the seventeen existing Lunacy Acts, if codified and properly amended, they could easily be compressed into three: the first having reference to lunacy generally and to public lunatic asylums; the second, to private licensed houses for the reception of the insane; and the third, to a distinct legislation for criminal lunacy, and the custody of persons

acquitted on the ground of insanity, or of those whose reason may become affected before or after trial. As the present Acts stand, they are very vague on many points—a fact best illustrated by the various opinions given on the same question, not only by different, but occasionally by the same legal authorities.

"A series of rules and regulations, based on the Statutes, was passed by order in Council fourteen years ago. Though sensible that many of them, however suitable at the time, are not adapted to the existing state of our lunatic institutions, while awaiting that general and better system of legislation already suggested by us to the Executive, we forbore urging minor details which, in due course, should be the result of a comprehensive legal enactment."

The Report of the Inspectors, on the present occasion, is subscribed by Dr. Nugent "for self and colleague," with the following explanatory note, in delicate and complimentary reference to his late amiable and highly respected coadjutor, Dr. White:—

"It is with feelings of sincere regret I have here to state, that during the last six months, included in the period of this Report, the Lunatic Asylums Office was deprived of the experience and assiduous attention of my respected colleague, in consequence of a severe accident which occurred to him when on a tour of inspection. The professional character of Dr. White is duly appreciated by the public; for me, a friend who valued his private worth, it only remains to add, that the uniform kindliness of his manner simply indicated the benevolence of his disposition."

We must not ourselves let Dr. White retire into private life without deeply and sincerely sympathizing with him on account of the deplorable accident which compelled him ultimately to resign his office as the Senior Inspector of Hospitals for the Insane in Ireland. Nor must we let this opportunity pass without recording the truly honourable and courteous manner in which he invariably acquitted himself of his important and confidential public duties. We feel quite satisfied that we are only expressing the unanimous voice of the medical and other officers of the Irish asylums when we say so. In him the several officials referred to had a warm, genuine, and firm friend and adviser,—one who was ever ready to promote the interests and smooth the difficulties of those with whom he came into official contact, and over whom he exercised the control with which he was vested in a manner so perfectly just and fair as to make his retirement to be most deeply lamented.

Having made the above justly merited reference to Dr. White, a sense of imperative duty compels us here also to make a passing allusion to Dr. White's lately appointed successor.

Of that gentleman, either personally or professionally, nothing but what is highly to his credit could be stated; and he is held in much and deserved estimation by those members of the profession to whom he is known. But he will forgive us when we respectfully tell him that his qualifications for his present office are unknown to psychologists, or in the domain of psychology. The Act of Parliament is express in declaring that the Inspectors shall be "duly qualified and experienced persons," which of course means that a practical knowledge for the office had been duly acquired. It is, however, the Executive, who conferred an admittedly important and peculiarly delicate office upon an entirely unqualified party, which is to be held responsible for the act. Besides, great injustice was done to those who had become fitted by their previous pursuits for the office in question, and who naturally expected that the vacant situation would have been bestowed upon one from their ranks, and great discouragement to them has consequently been the result. The Earl of Clarendon distinguished his Viceroyalty towards the district asylums by adopting it as a fixed rule that according as vacancies occurred in them, of the so-called office of "Manager," none but members of the medical profession should for the future be appointed to their charge. What a noble opportunity was lately afforded for Lord Carlisle also signalizing his Viceroyalty, in regard to those important institutions, by his Excellency selecting a resident physician for the office in question. Had he done so, he would only have been following the good example shown in this respect, on two occasions, by the English Lord Chancellor, who appointed as Commissioners in Lunacy those who had been superintendents of county asylums. And just recently the same fair system of promotion was adopted in Scotland. It is to be trusted, however, that the present appointment will be the last that will be thus reprehensibly conferred, and that for the future the office, both here and in the sister countries, will be regarded as only the due and legitimate promotion of the medical superintendents of our public asylums, just as much as in the army the subaltern rises by regular promotion to the rank of a field-officer. This is no new view of ours on the above subject, as may be seen by referring to the third "Annual Review on Insanity and Hospitals for the Insane," which appeared in the pages of this Journal in November, 1852, and from which we here reproduce the following passage as bearing on the matter at issue :—

"From long consideration of the subject, we have come to the conclusion that the inspectors of asylums should be chosen from

amongst the physician-superintendents. A small matter of reward this for them to look forward to, but in all common justice this promotion should, as a paramount right, go in the corps. It would act as a wholesome stimulus, and indirectly elevate their status; and for the performance of duties so confidential and peculiar in themselves, is it not plain that they, and they alone, are the fittest persons to be appointed to such an office? The late Lord Cottenham, when Lord Chancellor, admitted the principle. He appointed the Medical Superintendent of a County Asylum to be one of the paid Commissioners of Lunacy in England, and this despite of being pressed by the second highest personage in the realm to bestow the office on another, an eminent physician, but who was not 'duly qualified and experienced' in the treatment of the insane"[a].

We have only left ourselves room to say, in further reference to the Inspectors', or rather Dr. Nugent's, Report, with which we have endeavoured to grapple in its most salient features, that it is enriched with a copious and elaborate set of appendices, in which are tables and returns containing the fullest information, statistical and otherwise, upon every conceivable point of detail in connexion with the several district, central, and private asylums in Ireland. Indeed, the Report is quite a model one in this and its other features, and reflects the greatest credit upon Dr. Nugent and the official staff of the Lunacy Department in Dublin Castle, one and all of whom must have spent much time and toilsome labour in reducing these varied tables to their present readable and most complete, as well as suggestive form. We are only surprised how any pretext whatever could have been discovered, when such a department as this was in full operation in the Castle of Dublin, for the appointment of a special Commission of Inquiry in regard to our asylums, when every possible information that could have been required respecting their daily working must have been here at the immediate command of the Government. But we are so accustomed in the present day to roving Commissions of every sort and hue that the wonder would be how even the asylums managed to escape their kind and fostering care! Dr. Nugent, it is only justice to him to say before we conclude this notice, has earned for our asylums a very high status by the great attention he has paid to their working, and the efforts he has always made, and with the best effect, too, to have full justice done, more especially to their immediate responsible officers, the resident superintendent physicians. We are astonished, we may here state, and as has been already pointedly noticed by some contemporary professional journals, how

[a] Vol. xiv. page 401.

it comes to pass that the English Commissioners receive salaries of £1500 per annum each, with liberal travelling expenses besides, and for duties not a whit more onerous, if so much so, as are performed in Ireland by our own Commissioners, whose salary is not much above one-half of what their brethren in England are paid. We think this bears unmistakable injustice on its very face, and ought to be remedied in the proper quarter.

2. The Eleventh Report of the Commissioners in Lunacy in England is a Blue Book of not unpretending dimensions, containing the usual amount of varied official information in connexion with the state of insanity in England and Wales for one year, up to the 31st of March last. A considerable portion of the Report comparatively is taken up with a *rechauffé* of Mr. Snape's case of the Surrey County Asylum, which, for a bygone affair, as well as for the credit of the Commissioners themselves, we consider very bad taste on their part to have now brought forward again. The Commissioners have, of course, endeavoured to make out the best possible case for themselves, and wipe out the stigma fastened upon them connected with their proceedings for the prosecution of that gentleman,—a prosecution, too, which so signally failed. Their now taking up the subject, after having been finally disposed of by the restoration of Mr. Snape to his position as one of the Medical Superintendents of the above Asylum, looks too much like persecution, and a desire to have the last word in an affair in which most assuredly they neither added to their usefulness as a public board, nor placed themselves in a dignified position before the country. The business altogether was an unfortunate one from beginning to end, and so we shall leave it, only remarking, however, that the attempt now of the Commissioners—who do not profess to be a scientific body of men, or to have had any practical experience in the treatment of the insane and the conduct of establishments set apart for their care, save in one or two exceptions out of their entire number of eleven—their attempt, we say, to lay down rules and regulations for the Medical Superintendents, or to dictate to those really experienced functionaries in the performance of their professional duties towards the patients placed under their charge, savours not a little of presumption, and of too high an estimate of their own ability. The Superintendents, we hope, know their own position, and respect their own independence, better than to pay any attention to this increasing officiousness of the Commissioners.

The Commissioners state, that since their last Report a vacancy had occurred in the Commission by the death of Dr. Hume, a gentleman much respected in his official capacity during the long period he was a Commissioner,—for twenty-nine years,—and that the vacancy so caused had been filled up by the appointment of Dr. Nairne, late Physician of St. George's Hospital. We shall not here stop to discuss the particular qualification possessed by Dr. Nairne for his selection to so important an office as that of one of the Medical Commissioners in Lunacy; common report stated it at the time to be totally unknown; it is, consequently, one of those appointments so extraordinary and unjustifiable from previous deserts, as to make it very palpable that interest overrules merit as freely now as ever. Leaving, then, the "Physician of St. George's Hospital" to enjoy the promotion thrust upon him, we proceed to our proper business, that of making as brief and complete an analysis as possible of the Commissioners' Eleventh Report.

With reference to the provision for pauper lunatics during the last year, it is stated:—1. That a site had been obtained, ground purchased to the amount of 257 acres, and building plans approved, for the erection of an Asylum for the counties of Berks, Herts, and Hunts. 2. That some additional land had been purchased for the Bucks Asylum in order to secure a more adequate supply of water for that institution. 3. That the progress of the Asylum for Cambridgeshire had been resumed, and a purchase made of twelve additional acres of land. 4. That the plans for the proposed Asylum for Cumberland and Westmoreland were in an advanced state for commencing to build. 5. That additional buildings were in progress at the Devon Asylum, in connexion with which it is stated that, owing to the very crowded condition of the establishment, and in order to admit the insane poor of Plymouth, a house had to be taken at Exmouth for the transference to it of forty selected patients from the parent institution, a proceeding which had resulted in the best and happiest effects; though some opposition was given at first to their removal thither, the public mind being alarmed at the poor patients enjoying, in common with themselves, the lovely sea-coast in that quarter,—an alarm, however, for which there was no ground whatever, their conduct having been everything that could be desired, and as only might have been expected when this original idea of thus disposing of them for a season was undertaken at the advice of the able and experienced Physician-Superintendent of the County Asylum, Dr. Bucknill, a gentleman so distinguished

in his specialty, that any recommendation of his must needs be good and worthy of the fullest reliance. The novelty of this plan has pleased us greatly, and its approval and adoption reflected the utmost credit upon the visitors of the Devon Asylum, the Commissioners, and Dr. Bucknill. We hope to hear of an extension of this capital plan of getting out of a difficulty, under similar circumstances, when at all practicable; and further, we trust that the authorities of the Devon Asylum have no intention of giving up this marine residence, only temporarily taken, in the first instance, at Exmouth, owing to the emergency mentioned, but that they will keep it for all time to transfer some of the better classes of their patients to in the summer season,—a break in their monotonous lives which surely could not but be productive of permanent good, and largely help towards increasing the number of cures in the year; besides the hope of getting a share of the enjoyment of the sea-coast residence of the establishment, being an encouragement to good conduct to the patients generally, which would amply repay for any additional expense and trouble there might be in making it part and parcel of their County Asylum, so celebrated for the humane and scientific manner in which its inmates are treated. 6. The Dorsetshire Asylum has had some new and more satisfactory arrangements made in regard to its land, preparatory to contemplated additions to the house itself. 7. The plans for the new Asylum for the county of Durham have been finally approved, which would appear a desideratum, inasmuch as the Commissioners observe that the lunatic poor of that district have hitherto been located in houses, respecting which it has been their duty to report unfavourably again and again, owing to their crowded and grossly defective state. 8. The Essex Asylum has had certain lands appropriated as a burial-ground for the patients and officers dying in it. 9. The Commissioners refer to the unpardonable supineness of the justices of the four counties of South Wales, viz., Cardigan, Caermarthen, Glamorgan, and Pembroke, in respect of their pauper lunatics, pointing out that the existing accommodation was utterly discreditable and insufficient. An appeal had ultimately to be made to the Home Secretary to stir up the humanity of those worthy justices—if any they had—and being thus aroused, and through the fear of the powers of the Lunatic Asylums Act being brought to bear against them, there is some hope now of their unfortunate insane poor being in due time provided with suitable accommodation, but only for three of the four counties at first intended, that of Glamorgan having separated from the others. In our Review last year we

called attention to the same neglect on the part of the authorities of the above counties, which, to have continued to the present time, is far from being creditable to the parties concerned; the Commissioners, however, have at last, it would appear, brought the justices to their senses. 10. The Gloucestershire Asylum, owing to the large increase of its pauper patients, is to be appropriated for the future to pauper inmates only, that portion of it hitherto devoted to private patients it having been agreed to give up, which, it must be admitted, is a most proper reform in its management. 11. The Hants Asylum is to have a new set of workshops erected, it being purposed to convert the old ones into ward accommodation. 12. The Kent Asylum laboured under a deficiency in the supply of water, which is about to be corrected by an improved supply from the river Medway. The building of an additional wing for females has been in contemplation, but remains still under consideration. 13. The Leicestershire Asylum is about having an old wash-house converted into a steward's residence and workshop. 14. Already the Lincolnshire New Asylum requires enlargement, and plans have been approved for the same by the Secretary of State. 15. We regret to find, with regard to Colney Hatch and Hanwell Asylums, the two *Behemoth* establishments for the pauper lunatics of Middlesex, are about being converted into asylums of the Mammoth character, by enlarging the former, so as to admit 713 *additional* patients, and that of Hanwell to receive 600 more. On the 31st of December, 1856, Colney Hatch had, we find, within its walls the enormous number of 1249 inmates, of whom but 91 were considered curable; and Hanwell had on the same date 1013, so that these contemplated additions will crowd under the one roof in Colney Hatch so many as 1952, and in Hanwell an aggregate number of 1613, or, both together, 3565 of these afflicted beings! In our Annual Review for 1852[a] we raised our humble voice against the humanity and prudence of those "Leviathan" receptacles for the insane, as contrary to the received opinions of the most expeperienced and practical men of the day; and now we are glad to find that the Commissioners themselves advocate the very same views as we propounded, they objecting in the most decided manner to any further additions to the above Asylums; but unfortunately their well-founded and well-put objections have been unsuccessful, and instead of another asylum at least being erected for Middlesex, for the humane accommodation and

[a] See vol. xiv. p. 405, No. 28, N. S.

treatment of its pauper lunatics, the plan now indicated is to be the one adopted. On this most important question we think it right to quote in full the views of the Commissioners, which we consider sound common sense, and deserving of the gravest consideration:—

"It has always been the opinion of this Board that asylums beyond a certain size are objectionable. They forfeit the advantage which nothing can replace, whether in general management or the treatment of disease, of individual and responsible supervision. To the cure or alleviation of insanity, few aids are so important as those which may be derived from vigilant observation of individual peculiarities; but where the patients assembled are so numerous, that no medical officer can bring them within the range of his personal examination and judgment, such opportunities are altogether lost, and, amid the workings of a great machine, the physician, as well as the patient, loses his individuality. When to this also is added, what experience has of late years shown, that the absence of a single and undivided responsibility is equally injurious to the general management, and that the rate of maintenance for patients in the larger buildings has a tendency to run higher than in buildings of a smaller size (a fact which will be sufficiently apparent by reference to a return, printed in Appendix CC of the Average Weekly Cost for Maintenance, &c., in the several County and Borough Asylums during 1856), it would seem as if the only tenable plea for erecting them ought to be abandoned. To the patients, undoubtedly, they bring no corresponding benefit. The more extended they are, the more abridged become their means of cure; and this, which should be the first object of an asylum, and by which alone any check can be given to the present gradual and steady increase in the number of pauper lunatics requiring accommodation, is unhappily no longer the leading characteristic of Colney Hatch or of Hanwell. Built originally at great cost, as hospitals for treatment and relief, they have been gradually in course of conversion into permanent places of refuge for a too large proportion of cases, as to which the chances of relief are few; and while such cases have accumulated in them, there has been an almost total exclusion of those more recent, which by timely medical care therein might never have contributed, as they now so largely do, to the permanent burdens on the ratepayers. This growing evil was remarked upon by the Medical Officer of Hanwell so long as twenty-three years ago; and out of the 1019 patients in the same institution at the close of last year, in 26 only had the disorder been of less than one year's duration, and in 17 of less than two.

"When, therefore, in March and April of the past year, the Committees of Colney Hatch and Hanwell submitted, through the Secretary of State, plans for enlargement of both Asylums, designed solely to provide for increased numbers, without regard to a selection of cases, we urged very strongly the reasons which existed

against that proposition. The object being to provide accommodation for 713 additional patients at Colney Hatch, which would then contain nearly 2000 inmates; and for 600 at Hanwell, which would bring its total numbers up to 1620,—the time had arrived to express plainly the opinion that the desirable limit in both institutions had already been exceeded; that an increase of size in either would be most prejudicial; and that no such proposal ought to be sanctioned. The additional restriction which would thereby be placed upon the curative resources of both establishments was a reason, if none other had existed, decisive against it. No principle has been oftener laid down by this Board, because none is found more essential in the treatment of insanity, than that of not sanctioning the congregation, in one place, of numbers too large for the extent of ground to which necessarily their accommodation must be limited. Even at present, the land attached to Hanwell and to Colney Hatch is in both cases inadequate, and to add to the population of either, without the possibility of extending the land at its disposal, would be to abridge very seriously the means of relief and cure. At Colney Hatch (with 138 acres, and 1960 patients) the proportion would not be more than one acre to fourteen patients, and from even this must be deducted the wide area covered by the buildings; whilst at Hanwell (with 84 acres, and 1620 patients) it would be, without allowing for a similar drawback, not more than 1 acre for 20; and such spaces would be greatly too limited to afford the proper and healthful opportunities of exercise and employment indispensable to any due treatment of the insane. It became our duty, in these circumstances, to revert to the causes out of which the necessity for enlargement had arisen; and as it had been by accumulation, in these costly Asylums, of cases belonging rather to the incurable than the curable kind (and particularly of idiotic and demented cases), that the existing buildings had become inadequate to the objects which alone might justify the cost of the erection,—we now pointed out that the proper remedy could only be found in separating, as far as possible, such cases of a harmless character from the more recent and more certainly curable. When, in 1831, Hanwell was built for 500 patients, it was supposed to be large enough to meet all the wants of the county. But, two years later it was full; after another two years it was reported to contain 100 patients more than it had been built for; after another two years it had to be enlarged for 300 more; and at this time (Colney Hatch having been meanwhile constructed for the reception of 1200 lunatic paupers belonging to the same county) Hanwell contains upwards of 1000 patients. Colney Hatch was opened in 1851; within a period of less than five years it became necessary to appeal to the ratepayers for further accommodation; and the latest returns show that, at the close of 1856, there were more than 1100 pauper lunatics belonging to the county unprovided for in either of its Asylums. These facts point to a plain and unavoidable conclusion. Making all allowance for the actual spread of the disorder, and also

for the advantage not unlikely to have been taken of such asylums to find room therein for patients not absolutely paupers, it does not admit of any reasonable doubt that both buildings have been too much crowded with inmates who ought not to have been sent to either; and that, instead of continuing to be used as hospitals for the treatment, these expensive structures are in danger of being turned into mere houses for the safe custody of the insane. Hardly had they been built, when into each the workhouses sent such large numbers of chronic cases, as at once necessarily excluded the more immediately curable until the stage of cure was almost passed; and the doors of both establishments became virtually closed, not long after they were opened, to the very inmates for whom only it was needful to have made such costly provision. Manifestly, therefore, the remedy now was, not to exaggerate the mistake already committed, by additions on the same costly scale for purposes to which they would be as inappropriate; but, by a fresh classification and redistribution of the patients, not only to deal with existing evils universally admitted, but to guard against a recurrence of evils exactly similar, by restoring to both Asylums their proper functions of treatment and cure. It had become not more matter of justice to the lunatics themselves than of consideration for the ratepayers, to urge that the additional accommodation required, being for classes of patients as to whom, for the most part, small hope of cure remained, might be supplied in an asylum much better suited to them, and of far less costly character; and the immediate erection of such an asylum, without the expensive arrangements and appliances needful to the active treatment of such cases, was strongly pressed, by letter to the Secretary of State, upon the Committees of Hanwell and Colney Hatch. The suggestion, however, failed to meet with favour from the Committees; and the discussion of the various questions raised having been continued during the greater part of the year, the Secretary of State suggested a personal conference between the Commissioners and the Committees on the principal points of difference; but on the proposed meeting taking place in December last these proved to be not reconcilable, and the Commissioners reluctantly gave way. Reserving to ourselves the right, at all proper seasons, of restating and justifying our preference for a third and more simple structure, we found it necessary to defer to the very decided conclusion in favour of enlarging the existing buildings at which the Committees had arrived, to which the Court of Quarter Sessions had assented, and which a majority of the ratepayers had been found to approve. From that time our Board has ceased to insist on what we saw to be impracticable, and we can only entertain the hope that means may be found to render the modes of enlargement in both instances as efficient as the circumstances may yet allow. The degree of such efficiency will be the measure of the shorter or longer period for which the necessity of building a third asylum may still be averted."

16. In continuation of the Commissioners' separate observations upon the public asylums, the next we find noticed by them is the Norfolk establishment, so notorious for the harsh conduct of its visiting justices towards a former Medical Superintendent, which we, at the time, specially referred to[a], and its being behind the age in the general management pursued towards its inmates. We are left quite in the dark whether or not any reform, which was so much needed, has yet taken place in this Asylum, it being merely now stated in regard to it, that, with the view of "providing increased accommodation for the lunatic poor, plans for its intended enlargement were still under consideration." An ominous silence, we may also remark, was observed towards this Asylum in last year's Report, in which all the information given by the Commissioners was: —"That about three acres of land had been purchased by the visitors, which enabled them to divert the turnpike road which formerly passed close to the Asylum." We are left, then, completely to draw our own conclusions in respect of its conduct, and what those are we think it quite unnecessary here to record. 17. The Justices of the Northampton Asylum, not having taken the course prescribed by the Legislature in reference to their patients, have drawn from the Commissioners a threat of objecting to the renewal of the existing agreement with them for the maintenance of the Northamptonshire patients.

18. The Asylum at Nottingham is having erected a new chapel. 19. Fourteen acres of additional ground have been agreed to for the use of the Salop and Montgomery Asylum. 20. Plans have been approved for the erection of a new Asylum for the joint use of the Eastern and Western Divisions of the County of Sussex, at Haywood's Heath. 21. The new wings to the Asylum for the North and East Ridings of Yorkshire having been completed, additional land to the amount of fifty-three acres has been obtained, the Commissioners remarking that this is the second purchase of additional ground for this institution, which originally provided the liberal scale of eighty-nine acres to 303 patients. This Asylum, it should be observed, is always prominently put forward for its profitable more than its curative results, the former appearing to be the primary consideration in its management. 22. The West York Asylum at Wakefield is having additional buildings for laundry purposes attached to it. This concludes our summary of the state of accommodation for lunatic paupers in the counties

[a] Vol. xviii. No. 36, p. 389.

and boroughs, establishments of which the Commissioners speak favourably, observing, that they have "progressed during the past year more considerably than for several years preceding."

We are happy to find that, even at the eleventh hour, the Government has resolved to provide, without any further delay, "a new State Asylum for the accommodation of 600 criminal lunatics, and that active measures are now in progress for the selection of a suitable site."

We cannot but think that it is most discreditable, upon the part of the Government, that the soldiers of our country, who fight our battles and enable us at home to live in peace and security, should, in this age of advancement, be left unprovided for by the nation, when, unhappily, they have been afflicted with insanity. This is really disgraceful, and should be held up to public odium, that the authorities might be thus forced to do justice to our brave defenders when they become the subjects of this lamentable disease. The wretchedly mean and parsimonious plan now in operation towards the insane soldiers is, the Commissioners scathingly state—

"To endeavour, in the first place, to ascertain the settlement of a soldier when first attacked with insanity, and, if it can be discovered, to transfer him to the parochial authorities. Failing this, he is retained under the charge of the War Office, and is farmed out to the proprietor of a licensed house. Such only is the kind of care now bestowed on soldiers when attacked with insanity. The commodious building from which they were lately removed remains empty; *and they are crowded into a private one, in the vicinity of the metropolis.*"

We have used the italics here ourselves to make, if possible, this mild rebuking language of the Commissioners still more pointed. Our country should at once take measures to remedy this inhuman neglect towards insane soldiers.

The Commissioners, after referring pretty fully to the state of the licensed houses, and making some remarks upon the value of open-air exercise and employment, point to the importance of offering a liberal remuneration to those in immediate attendance upon the insane, observing, that in many asylums the scale of payment was gradually increasing, and expressing their hope that such further advances would generally be made as to insure ultimately the services of only the most competent and trustworthy persons. In some asylums (as at Hanwell), a small sum of money is allowed to defray travelling expenses on the occasion of a leave of absence, which we can only say is very creditable, and that so good and liberal an example is

well worthy of being the rule, and not the exception, in all similar establishments, in which the duties are so onerous and unceasing as to deserve the most liberal reward and indulgence in every possible and reasonable way.

The Report of the Commissioners, on the present occasion, is much richer in professional statistics, &c., than their last: certain deficiencies which we then called attention to are not to be found in this issue.

We have only room for the following "summary," in addition to what we have already given from this Report of the Commissioners, which, it is only justice to state, is, on the whole, a very complete and ably drawn-up public document:—

*Summary of Patients of all Classes.*

| | | Deemed curable. |
|---|---|---|
| In County and Borough Asylums, . . | 14393 . . | 2070 |
| Hospitals, . . . . . | 1742 . . | 340 |
| Metropolitan Licensed Houses, . . . | 2578 . . | 390 |
| Provincial Licensed Houses, . . . . | 2598 . . | 527 |
| | 21311 | 3327 |
| Deemed curable, . . . . . | 3327 | |
| Deemed incurable, . . . . . | 17984 | |

3. The Report of Her Majesty's Commissioners on the Lunatic Asylums in Scotland is a production which, for great ability and quantity of material, may, without the least fear of comparison, be placed in juxtaposition with any Blue Book that has seen the light for a lengthened period. The Report itself contains 257 pages, which, however, is but trifling when compared with its accompanying massive volume, entitled, "Appendix to the Report," so many as 531 pages being devoted to it, exclusive of an index of fifty pages. To judge from these results of their perfected labours, the work which her Majesty's Commissioners had to perform must have been gigantic, for it would be a herculean task for any one to undertake a full perusal of these tomes. For ourselves we must be content to do little more just now than to notify to our readers that such a literary production devoted to the cause of the insane is in existence, and that when they have a leisure, of three months at least, to spare from other and more important duties, they can fall back upon this elaborate Scotch Report. Immediately upon the appearance of this voluminous work the public mind was horrified with the dread nature of what it was said to

contain, and certain extracts were carefully culled from it for the benefit and edification of the general community, with such notes and annotations as the caterer for the public of these excerpta considered would best suit. No doubt, the condition of Scotland's pauper insane was far from what it ought to have been, and was justly expected to be, in that enlightened and humane portion of her Majesty's dominions. But it is only fair to state, that the seven chartered public asylums of Scotland bore the test of a most rigid inquiry and personal examination on the spot. On the plan of the Commissioners, each of those seven Asylums, viz., the Aberdeen, Dumfries (Crichton), Dundee, Edinburgh, Glasgow, Montrose, and Perth, affording the fullest evidence of being conducted upon the most humane and scientific principles, one and all of them being presided over by resident physicians of indisputable professional eminence, skill, and experience. It was more especially in the licensed houses, poor-houses, &c., that abuses of a grave character were perpetrated towards the unfortunate insane patient, and this distinction not having been properly made, together with the wholesale and indiscriminate condemnation of the treatment of the insane generally, led the public to believe that there was nothing, but neglect, mismanagement, and cruelty in vogue throughout the length and breadth of North Britain in regard to the mentally afflicted of that country. Having said this much, we may observe that the Commissioners entered upon their onerous duties very systematically and with great tact, acquitting themselves of their important trust with the utmost amount of ability and judgment, together with extreme impartiality. On that Commission was a gentleman of the greatest practical experience, one who had been a medical superintendent himself for many years of a large county asylum, and thus was this Commission well prepared to undertake the arduous work they were deputed to perform. We have every reason to believe that the Report before us was brought out in the able and comprehensive form in which it has appeared by that gentleman's eminent fitness for so delicate and responsible a task. The name of Mr. Gaskell is quite sufficient to obtain the fullest confidence for the Report which emanated from the Commissioners, and to guarantee to the public that the inquiry which was instituted could not have been placed in better or more competent hands. The Report proper embraces the following principal heads:—

1. Abstract of the law of Scotland in reference to lunatics.
2. Number and classification of the insane.
3. Distribution of the insane.

4. Existing accommodation for the insane.
5. Conditions of the asylums and other establishments for the insane in Scotland.
6. Condition of the insane not in establishments.
7. Mode in which the law is administered.
8. Recapitulation and suggestions for future legislation.

The above will show the very enlarged and business-like manner in which the Commissioners entered upon their duties, and our only regret is, that on the present occasion we are quite unable to quote from their Report as it deserves and we would desire. Its varied contents will afford much valuable information to all interested in the cause of the insane, and the fact that it has already been the means of procuring for Scotland the enactment of a comprehensive legislative measure for the due care and treatment of the insane classes of her population, cannot but be a cause for much exultation to every feeling mind, and to none more so than to that disinterested and enthusiastic lady, Miss Dix, of America, to whose philanthropic visit of inquiry, two years ago, as to the state of the insane in these countries, especially in Scotland, is to be mainly, if not entirely, attributed the sending out of this Commission, and thus to succeed in attaining a compulsory measure of justice for the insane generally of that country, in regard to whom the local authorities had been so apparently indifferent. In cursorily glancing at the Commissioners' Report, we find that the total number of the insane in Scotland is as follows:—

| | |
|---|---|
| Under special protection of the law, . . . . . | 3328 |
| In poorhouses, but not under sheriff's warrant, . | 253 |
| With relations or strangers, or living alone, . . | 3798 |
| In unlicensed establishments, . . . . . | 24 |
| Total, . . . | 7403 |

Of the above the proportions as to sex are—males, 3736; females, 3667; total, 7403. As to species of disease:—Lunatics, 4800; congenital idiots, 2603 = 7403. As to social position:—Paupers, 4642; private patients, 2732; criminal lunatics, 29 = 7403. And as to curability or otherwise:—Curable lunatics, 768; incurable lunatics, 4032; congenital idiots and imbeciles, 2603 = 7403.

The proportion of pauper lunacy in Scotland, it appears from a very accurate and extended examination, made by the Commissioners into this important point, is 1·351 for every 1000 of the population. With respect to the mooted question of insanity being on the increase, the Report states on this

head, that as relates to Scotland the inquiries instituted did not afford the means of deciding, but that means were at hand for stating "that civilization, which leads to an improved condition of the people, is not productive of insanity," which is so far consolatory.

As regards the licensed houses, the Report observes:—

"The condition of pauper lunatics, in several of the licensed houses, is most unsatisfactory. No doubt, there are some private asylums, in which the treatment of the patients is conducted on humane and enlightened principles; but the facts we have quoted show that many of these establishments require to be fundamentally reformed."

Amongst some excellent observations contained in the Report, under the head of "The Treatment of Insanity," it is stated, and with much truth,—

"That, according to the experience of well-conducted asylums, the probability of recovery, in cases received within three months of the commencement of the first attack, is as four to one, and when there is no serious complication of bodily disease, is even as nine to one. But so much is timely treatment essential to success, that where more than twelve months have elapsed since the commencement of the disease, the probability of recovery falls one in four.

"But the fact that a patient has been for years afflicted with insanity cannot be permitted to stamp him as certainly incurable; for we have instances of restoration to reason after the lapse of more than twenty years of mental derangement. There are certain cases indeed, such as those in whose brains structural alterations have taken place, where recovery is utterly hopeless; and many such patients, as well as congenital idiots, may with propriety be placed in institutions conducted in a manner less expensive than is rendered necessary by the object of a curative institution. Still, we must remember that there are many insane, who, though their recovery is hopeless, are, nevertheless, capable of making themselves useful and of deriving enjoyment from existence. At all events, their heavy lot may be alleviated by kind and judicious treatment."

The following paragraph, in regard to the size of asylums, is of great importance at the present time, and worthy of the best attention:—

"We would prefer moderate-sized and economically-constructed asylums, placed in convenient localities throughout the country, to large central establishments. We are convinced that this course would prove advantageous to rate-payers as well as to patients; for, if we are correct in our assumption, that three-fourths of the patients who are submitted to early treatment recover, of whom the greater

proportion would continue insane, if left uncared for, it is self-evident that true economy would counsel placing them at once in asylums."

We find that we must here conclude with this necessarily brief review of the Commissioners' Report, by giving as annexed their "suggested remedies" for the better management and treatment, in future, of the insane in Scotland, which are excellent in their way; and in now leaving the Report we must again record our opinion of its being a very valuable production of the Commissioners' labours, who in its entire compilation have shown no small amount of indefatigable zeal and great ability, coupled with a master-hand in its whole arrangement.

"It is admitted by all whom we have interrogated, and appears as the result of our inquiries, that the system now in use in Scotland, in respect to the insane, is most unsatisfactory, and that it does not afford any sufficient protection to the lunatic. It is evident that, instead of judicious care and treatment for the cure of the disease, safe custody is the object principally held in view by parochial and other authorities; and the above brief enumeration of the practices pursued in reference to the insane clearly indicates that remedial measures are urgently demanded. We, therefore, in conclusion, desire to state our opinion that all the existing statutes relating to the insane in Scotland should be repealed, and a new and comprehensive code framed to meet the many pressing wants of the community, embracing the following provisions:—

"1. The erection of district or county asylums for pauper lunatics, including accommodation for the insane belonging to the labouring classes, who are not strictly paupers. Likewise, more suitable accommodation for criminal lunatics.

"2. Means for insuring greater caution and discrimination as regards the licensing of houses for the reception of the insane; for imposing some check upon the licensing of new houses, and for conferring powers to close those already opened for paupers, so soon as public asylums shall have been erected, or at any other time, if not properly conducted.

"3. Regulations by which all pauper lunatics, not in asylums, shall be brought under proper visitation and care, and periodical reports be made as to their condition by medical men; so as to afford a safeguard against abuse and ill treatment, and secure the ready and careful transmission of all proper cases to asylums.

"4. An accurate definition of the powers and duties of sheriffs, in reference to the insane, so as to secure a more uniform practice and united action against them.

"5. Rules for the guidance of the board of supervision, parochial boards, inspectors of poor, and district medical officers, in all matters relating to the management of the insane.

"6. More complete regulations in reference to medical certifi-

cates; to prevent interested parties signing them; to specify the length of time the document shall remain in force; and to require a statement of the facts or evidence upon which the opinion as to the patient's insanity is founded. Also a limitation of the time during which the sheriff's order shall remain in force, previous to the admission of the patient, and also in case of escape.

"7. The formation of a complete system of schedules and returns, together with full records of all admissions, discharges, deaths, and accidents. Also the institution of registry and case-books, showing the medical treatment pursued in each case, and whether and to what extent restraint and seclusion were employed.

"8. Comprehensive regulations applicable to licensed houses and poorhouses, while continuing to receive lunatics; for securing to the patients sufficient medical and other attendance, kind and appropriate treatment, proper diet, clothing, bedding, exercise, and recreation; and adequate means of religious consolation.

"9. A requirement that, on recovery, patients shall be discharged by the medical attendant of the establishment.

"10. Restrictions on the removal of pauper patients by inspectors before recovery.

"11. Precautions for preventing injustice in transporting aliens.

"12. Better regulations as to dangerous and criminal patients.

"13. Measures by which persons labouring under insanity may voluntarily place themselves under care in an asylum.

"14. Special regulations for prolonging control over cases of insanity arising from intoxication.

"15. Enactments for extending further protection to the property of lunatics, and for insuring the proper application of their funds.

"16. The imposition of suitable penalties for infringement of the law, and power to modify them according to circumstances.

"17. Powers to raise sufficient funds for the purposes of the Act.

"18. The creation of a competent Board, invested with due authority, and to whom the general superintendence of the insane in Scotland shall be intrusted; including powers to license houses for the reception of the insane; to visit all asylums, licensed houses, poor-houses, and houses containing only single patients; to order the removal of patients to or from an asylum, or from one asylum to another; to give leave of absence to convalescent patients; to regulate the diet in asylums and licensed houses for pauper patients; to make regulations for their management, &c., &c.; with direction to report to the Secretary of State for the Home Department.

"19. The formation of local boards for the management of individual asylums, who shall act in conjunction with the general board."

4. We have before us the several quarterly Numbers of the "Journal of Mental Science" for the current year, in each

of which we find papers and contributions replete with the most valuable and practical information, in connexion with the important specialty of that department of the medical profession of which it is the official organ, "The Association of Medical Officers of Asylums and Hospitals for the Insane."

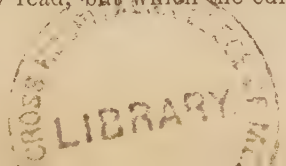
The Number for January contains, amongst several other original communications, the conclusion of "The Diagnosis of Insanity," by Dr. Bucknill, the very able editor of the Journal, which, as might be expected from such a pen, is thoroughly practical and deserving of attentive perusal. We have also in this Number an excellent article written by Dr. Kirkman, the eminent Resident Physician, for a quarter of a century nearly, of the Suffolk County Asylum; its title being, "The Divine and the Physician," and in which he takes severely to task, and not less severely than deserved, the Rev. Henry Melvill, for some striking observations, it appears, he made on the subject of madness, in a sermon preached by him from Eccles. ii. 2:—"I said of laughter, It is mad; and of mirth, What doeth it?" and entitled, as published in the Pulpit, "The Wit and the Madman." Mr. Melvill, in this published discourse of his, is charged by Dr. Kirkman with giving utterance to unsound interpretation and unsound philosophy, both of which charges Dr. Kirkman, with much acumen, but still in an eminently Christian spirit, brings with great force against that reverend gentleman.

Dr. Monro, "On the Classification of the Forms of Insanity," and Dr. Tuke, "On the various Forms of Mental Disorder," are both good and sensible papers also in this Number. In the issue for April, Dr. Bucknill appears in his usual vigour of style "On the Pathology of Insanity," which is written with much soundness and ability; Dr. William Wood, "On the Establishment of a State Asylum," which he satisfactorily proves to be pressingly necessary; Dr. Boyd "On Epilepsy," very practical, as all Dr. Boyd's writings are; and "Asylum Architecture and Arrangements," by Dr. Bucknill, a paper deserving of being carefully read by all in charge of asylums. In this Number is brought forward the case of Mr. Millar, lately the Medical Superintendent of the Bucks Asylum, in which the Committee of Visitors of that institution appear in a most tyrannical character, nearly as bad, if not entirely so, as the Norfolk Asylum Justices in the case of Dr. Foote,—both gentlemen having been dismissed from their situations in a manner at once oppressive and unjustifiable by the visiting justices. The editor of the Journal, with much truth, states that the visitors failed "to make out any case against Mr. Millar's character." Their conduct

towards that gentleman is about the most arbitrary and high-handed that can well be imagined, and very conclusive that the local authorities in England should not be intrusted even with the appointment of the inferior, much less the superior, officers of the public asylums. The July Number, like its precursors, is rich in excellent and practical papers by Dr. Noble, Dr. Tuke, and Dr. Blount; besides having several reviews in connexion with asylums, &c.; and the medical evidence in Mr. Snape's case. The last Number is the one for the current quarter, which contains for its opening paper a full and interesting report of the late annual meeting, held in London, of the Association, which was very largely and influentially attended, and at which Dr. Hitchman, the retiring President, made an eloquent address, chiefly in reference to the case of Mr. Millar, which had been strongly, and with much unanimity taken up by the Association, the visitors of the Bucks Asylum being most completely convicted for their injustice towards that ill-used gentleman; in support of whom the Commissioners in Lunacy, Dr. Hitchman stated, had come forward and given public testimony to the value of his services and the creditable state of the Bucks Asylum during the period of his superintendency. To us the conduct of the Bucks visitors in respect of Mr. Millar, appears both incomprehensible and discreditable. We sympathize deeply with Mr. Millar, and heartily join in the denunciation of his brethren against the tyrannical conduct of the so-called Bucks Justices. Dr. Winslow, the incoming President of the Association, delivered a very able address, in the course of which he made some excellent observations upon the rights and privileges of those devoting themselves to the practice of psychology.

In this number we have Dr. Bucknill's paper on the "Pathology of Insanity" continued with unabated interest and practical worth; the other contributors are Dr. Tuke, "On the Treatment of Insanity when refusal of food is a prominent symptom," which was read at the Association meeting; the same author, a paper entitled, "Does Civilization favour the generation of Mental Disease?" (a question which the Scotch Lunacy Commissioners, it will be seen in our Review of their Report, answer in the negative); and Dr. Noble, "On the Use of Opium in Insanity."

A Report of Dr. Huxley, the very able Superintendent of the Kent Asylum, to the Committee of Visitors of that institution, "On the plan of getting out patients at night to keep them from soiling their beds," appears in this Number, which we have attentively read, but which the editor states that he



"unwillingly publishes, on account of the reflections it contains upon a gentleman whom he greatly respects," meaning Mr. Gaskell, one of the Commissioners in Lunacy, and for whom we also feel the utmost respect; yet notwithstanding all this, and fully agreeing in opinion with the editor that "Mr. Gaskell is no carpet knight in the ranks of psychology," yet after some twenty years and upwards spent in the treatment of the insane, we will be candid enough to say—with every deference to Mr. Gaskell and the editor—that we are quite of Dr. Huxley's opinion in believing it to be next to an impossibility to prevent dirty patients from soiling their beds, no matter the frequency with which they may be taken up during the night, and the doing of which causes so much irritation to them, and disturbance to others, without any commensurate good result.

The recent appointments of Commissioners in Lunacy in the three kingdoms has called forth the following just criticism from the editor:—

"*The New Commissioners in Lunacy.*—We would fain have avoided the invidious task of commenting upon these appointments; but the indignant letters we have received from members of the Association inform us, that it is our imperative duty to express our entire disapproval of the principle, or want of principle, upon which the choice of the Government has been made. The appointments of Dr. Nairne, Dr. Hatchell, and Dr. Coxe, have been a heavy blow and a great discouragement to all medical men practising in lunacy, and especially to the class of asylum superintendents,—men who upon small stipends devote their lives to onerous and harassing duties, in the hope that some day they may draw one of the legitimate prizes of their professional career. The whole class of asylum superintendents justly feels injured and insulted by being placed under the authority of strange medical men, who have never borne the heat and burden of the day, who have no claims for such preferment, and who, practically ignorant of the responsibilities entailed in the management of asylums and the treatment of the insane, must come for what instruction may suffice them for an apparently decent discharge of their duties to the very men whose rightful position they have usurped. How can Commissioners who have never resided for twenty-four hours in a lunatic asylum appreciate the difficulties which occur there? How can they distinguish between unavoidable misfortunes and reprehensible faults? How can men instruct who have never learnt? How can men direct the most difficult of labour who have never submitted to work?

"It is fair to say, that in Dr. Nairne's appointment no false pretence was made to knowledge which he did not possess. We are informed that he takes great credit to himself for bringing to the Commission a freedom from prejudice, derived from his primitive

innocence in all that relates to asylums and the insane, as if ignorance were the parent of impartiality. Dr. Hatchell's appointment, on the other hand, has been defended by the most Irish attempts to make it appear that he does possess experience in the treatment of the insane; attempts which admit the principle that experience is needful in an Inspector or Commissioner, and which by inference condemn the recent appointments. On the 21st of July Mr. Cairns, the Member for Belfast, put a question to Government in the House upon this point. He asked whether the report that Dr. Hatchell had been appointed Inspector of Lunatic Asylums in Ireland was correct, and if so, whether Dr. Hatchell had had any, and what, experience in the management of lunatic asylums, and the treatment of the insane. On behalf of Government, Mr. Herbert replied that the report was correct, and that Dr. Hatchell had never been connected with any lunatic asylum in any official capacity; but, that as Surgeon to the Irish Constabulary, which office he had held for nine years, he had had frequent opportunities of inspecting and treating lunatics. He had also, twenty-four years ago, been educated at Steevens' Hospital, which was in connexion with Swift's Lunatic Asylum, where he might have had ample opportunities of observing the treatment of lunatics. On such grounds every medical man who has been educated at Guy's Hospital has a claim for an appointment on a Lunacy Board, since there is a lunatic asylum in connexion with the hospitals, into which, however, we believe, the hospital students rarely or never enter. We are sorry to hear that insanity is so prevalent among the Irish constabulary, but why did Mr. Herbert omit to mention another possible source of experience which Dr. Hatchell has possessed? He has been Household Physician to the Lord Lieutenant, who has given him this piece of lunacy patronage, and surely his experience in the Castle ought not to go for nothing, if his experience in the police-station goes for so much. At the last hour, the force of public opinion has interfered with the Government arrangements for the Commission in Scotland, by giving the protegé of the Duke of Argyle an able coadjutor in Dr. Browne, the experienced Superintendent of the Dumfries Asylum. This appointment will give universal satisfaction, except to those corrupt dealers in patronage, who will see in it an emphatic condemnation of their own proceedings."

The last article in this ably conducted Journal, one which reflects credit alike upon the Association and its accomplished editor, who plainly does not spare himself in carrying it on vigorously and effectively, is a reprint of a State document of the celebrated Miss Dix, in which she "modestly gives an account of her labours in the cause of the insane in her own country," every line of which is deeply interesting, and redounding largely to her unflinching zeal in promoting the best interests of those labouring under this affliction.

5. The Journal of Psychological Medicine and Mental Pathology, under the able editorship of Dr. Forbes Winslow, continues to take high rank among the kindred publications of the day, and in the Numbers which have appeared during the current year we find the usual amount of instruction and information. In the January issue is a practical paper from the pen of Mr. Waters, of Liverpool, "On the use of Chloroform in the treatment of puerperal insanity," which deserves an attentive perusal, introducing, as it does, to professional notice the application of a remedial agent to an important class of cases with very successful results.

Among so much that is practical and useful we regret to be obliged to notice the occurrence of a paper in the same Number (January), which appears to us hardly germane to the class of subjects embraced in this admirable serial. We allude to that entitled, "Professor Ferrier's new Scottish Philosophy." The writer sets out with a keen dispute as to the legality of his countryman (for we shrewdly guess the nationality of the article) in arrogating to his "new philosophy the title of *Scottish*." Now, while we are free to admit the claims of such writers as Reid and Browne and Dugald Stewart on the gratitude of their countrymen, and all interested in metaphysical studies, on the grounds, too, which the writer sets forth, we think it hardly worth a literary tussle with another honest Scot, to deny his right also to name his discoveries, or whatever they may be, in the same department, by the term *Scottish*. We would more seriously demur to the introduction of such a class of pneumatological disquisition into a Journal like that in which it occurs. If our Scotch friends expect us to master such a terminology as they think necessary to employ, and a specimen of which we subjoin, before we can enter into their views, we must beg leave, for a season at least, to decline the privilege:—

"An object can only exist for *us* in connexion with intelligence. True, yet consciousness declares the object to be a *non-ego*, *and if consciousness is veracious*, *a non-ego* it is; then it is a *non-ego-cognised:* yet the *non-ego* is only causally, paternally related to consciousness; that is, it is a *genus* paternally related to its *differentia*-cognised, forming the *species*, *non-ego-cognised*. Now, to this species, or synthesis, either element is indispensable; take away the *non-ego*, you destroy it; take away *cognised*, you destroy it likewise: you destroy the synthesis in which alone the *non-ego* exists *for us*. Therefore, *for us* there exists no mere material world, no *non-ego minus cognised*."

Such a specimen of Scotch metaphysics strongly reminds

us of the prize translation at the Cambridge "Little-go," of the students' favourite expression, "Cock your eye," into the classical form, "Gallus tuus ego." It may be very intelligible north of the Tweed, but we honestly confess it is above our grasp of intellect; and we suspect that very many readers of the Psychological Journal will be found to sympathize with us.

The paper contributed by Dr. Theophilus Thompson, of London, on "Mental Labour; its effects on the Blood," is full of suggestive information. We entirely concur with its learned and judicious writer as to the necessity of attention, on the part of professional men especially, to the danger of an over-taxation of mental energy, in the pursuit of any object, however laudable, of any science, however exalted. The concluding remarks of this admirable article are as striking as true:—

"It is a common remark, that the type of disease at different periods varies. In tracing some past eras of disease (speaking in general terms) we may conclude that the plethoric condition, prevalent in the seventeenth century, gave place in the eighteenth to gastric congestion. This condition has now ceased to predominate, and we have perhaps entered on an anæmic era—a state peculiarly unfavourable to the manifestation of power and to the production of great men. For all classes, but especially for the professional, a prudent regard should be had to the probable production and ready aggravation of the anæmic condition, from causes associated with the laws of mind. A different training, physical and intellectual, must be adopted by our clergy, if they are to be kept in the foreground of the domain of thought, and to be suffered to direct those energies of social life which it is our part, as medical men, to cherish. As respects the application of medical theories, a wider range of thought should be pursued. The modifications of many prevalent diseases may have reference as much to mental states as to hygienic conditions of atmosphere and diet. Every remediable infirmity is a violation of the law of progress. If medicine is to render to the community a full amount of good, it must be not simply in treating the maladies of individual patients, but in ministering to the conditions which disturb the vitality of the race, and thus, whilst improving our appliances for daily work, remembering that we are enlisted in the service of mankind, we may make posterity our debtors."

The April Number of the Journal opens with a paper, as startling as we fear true, "On the Degeneracy of the Human Race." This paper may be considered as a digest of a very remarkable work, in the French language, published at Paris during the current year, whose title is thus given:—"Traité

des Dégenéresences physiques, intellectuelles, et morales de l'espece humaine; et des causes qui produisent ces variétés maladives. Par le Docteur B. A. Morel." Some of the facts and statistics adduced in this remarkably able paper are deserving of the deepest attention from all who are interested in the elevation and welfare of our race, physical and intellectual. The deteriorating agents, as well as the noxious habits which tend to the lamentable effects noted, are here detailed at length, by the avoidance of which, and by other sanative means suggested, the evils pointed out are also represented as possible to be met and surmounted. The concluding paragraph, to this effect, is from the work of the French original:—

"The plan which I have adopted is vast; but I am determined to pursue it to the end. The confidence which sustains me does not arise from any exaggerated idea of my own strength, but from a lively and profound faith which strengthens and animates me. I believe that the study of the causes of degeneration, and of their treatment, is one of the most important, useful, and suggestive that can occupy the mind of a physician; and that it is the duty of each, according to his power and ability, to aid in preventing the generalization of the evils pointed out; and thus to have ever before him, as the programme of his labours, the *intellectual, moral, and physical amelioration of man*, or (if the term be preferred) '*his regeneration.*'"

We regret that it is not in our power to speak in entire approval of some of the other papers in this Number of the Journal. Art. III. is entitled, "Capital Punishment for Murder scripturally considered." This paper is contributed by "the Rev. J. F. Denham, M.A., &c.," and is a purely theological one. We must confess our inability to perceive the appropriateness of its introduction into a Journal devoted to "Psychological Medicine," while we are free to acknowledge that, probably with the vast majority of its readers, we remain unconvinced by the arguments of the writer against the established law of this country on the subject of the penalty for murder. The subject is, as we have said, so entirely a theological one, that we forbear to enter on it here. This only we would say, that while the writer's exposition of the great moral precept in the Old Testament (Gen. ix. 5, 6), on which capital punishment for murder is confessedly founded, may, in an almost literal sense, be designated as "contra mundum," we sincerely trust it may be long before he and those who agree with him shall succeed in their efforts to induce our legislators to attempt the dangerous experiment which he would introduce, of substituting some other legal penalty than death for wilful murder.

Fearfully frequent as the crime now is, or has been, under the present state of the law, we can too easily conceive how infinitely worse society might become under Mr. Denham's proposed relaxation. It is a common saying to "Let well alone;" but with reference to the statistics of this crime, in connexion with its existing penalty, we should be disposed to say, "Let ill alone." We notice the introduction of this article chiefly to protest against its admissibility into the Psychological Journal.

While in the vein of criticism we would add, the article on the "Phenomena of Dreams and Apparitions" is hardly equal to its predecessors on the same subject. It is loosely composed, and throws but little light on an interesting subject. The papers on "Marriages of Consanguinity," and on "Hereditary Influence, Animal and Human" (is there not a slight blunder here in the nomenclature?), will repay a careful perusal.

Our space forbids us to dilate upon the contents of the July Number of this interesting Journal, although in many respects more deserving of a lengthened notice than any of its predecessors during the year. It opens with a most valuable paper on "Neglected Brain Disease and Suicide," from the vigorous pen of the editor, in which the case of the late lamented Hugh Miller is largely and justly commented on. We commend the attentive perusal of this article to all who, from their connexion with professions which necessarily draw on mental energy, are deeply interested in the prophylactic view of such subjects; and shall only add, that we should be extremely glad to be able to trace the pen of Dr. Winslow more frequently in the periodical which he so ably edits.

The paper on the "Demon of Socrates" is chiefly taken up with a review of a charge of insanity lately brought against the Grecian philosopher by a French writer, M. L. F. Lélut. It is an interesting contribution, although leaving the main question rather *sub judice*.

The remainder of this Number is devoted principally to a review of the state of lunacy, and statistics of insanity in Scotland and England, with a very interesting account, by Dr. Arlidge, of the asylums of Italy, Germany, and France, from "Notes of a Visit" made to those countries in the year 1855.

The concluding Number of the Psychological Journal for the current year has just issued from the press, and is inferior to none of its predecessors either in interesting matter or in the variety of topics discussed.

The papers on what may be styled the Theory of Psychology are instructive and interesting, although some of them

(and one especially on Philosophical Progress) would, perhaps, to the generality of readers, appear open to the charge which we felt it necessary to prefer against some which have preceded them, as being technical in their language to an extent which some would pronounce to be *bizarre.*

The paper (Art. II.) on the "Insanity of Early Life," contributed by an accomplished French physician, M. Brierre de Boismont, is eminently practical. The cases here adduced of the early manifestation of cerebral disease in France can, we are persuaded, be paralleled by similar occurences in these countries. More than one have come under our own notice, and we would suggest that a careful collection and analysis of such facts, especially where the malady has been proved congenital, might materially aid those endeavours after preventive and prophylactic measures, as regards mental disease, generally considered, which have been broached in some of the preceding papers of this Journal before us.

A review of Dr. Nugent's Report on the State of Lunacy in Ireland, which is highly and deservedly commended, as well as a paper on Lunacy in England and Wales, with ample details and information respecting the same in the asylums of Italy, Germany, and France—being a continuation of Dr. Arlidge's paper—as also an abstract of the new Act regulating the care of the insane in Scotland, and an account of the Sardinian law of lunacy, complete the contents of this Number of the Psychological Journal.

With this Number vol. x. concludes, and while we repeat our approval, generally, of the character and interest of this serial, we must yet in candour state, that we can hardly give it as our judgment that the original contributions in this volume, those especially which deal with psychology in the abstract, have attained as high a literary rank as some which have preceded them in former volumes.

6. The Number for July, 1856, of the American Journal of Insanity has the usual amount of interesting communications, &c., scattered through its pages. In it we observe another step in advance of ourselves, by a decided move being stated to have taken place for establishing an asylum for the reception of drunkards, the New York Legislature having, last session, passed a bill incorporating an Association for the above most desirable undertaking, one which would be most needful and of the greatest importance to establish nearer home. In this Number, also, is a short notice on Insanity in India, taken from a Report on the Lunatic Asylums in the Bengal Presi-

dency, in which it is stated, in accounting for the larger percentage of cases (52·60) in that Presidency as compared with those in Great Britain (37·04), that "a very considerable proportion of those admitted as insane to the gaol hospitals, and probably also to the asylums, were wretches crazed by the excessive use of narcotics, especially of gungah."

An interesting report is given of the Eleventh Annual Meeting of the Association of Medical Officers of American Institutions for the Insane, at Cincinnati, Ohio, the previous May, which was most numerously attended, and at whose sittings several valuable and practical papers were read, followed by discussions which evoked much that was profitable in the treatment of the insane and the management of asylums,—extracts from which we regret much being unable to reproduce here.

The first matter which attracted our attention in opening the Number of this Journal for April last, was an exceedingly well-executed engraving of the Michigan Asylum for the Insane, which, from its representation as there shown, must be a very handsome and imposing structure, in the Italian style. An extended history is given of it, which forms the commencing paper of this Number, and from it we learn that great good sense was shown at the commencement in regard to this institution by the appointment of an experienced Physician-Superintendent in the person of Dr. Gray, who furnished the ground plans, and who had been Acting Superintendent of the New York State Lunatic Asylum, to the post of Superintendent, which we suppose means that he had been the Assistant thereat. This was done with the view of the building being erected "so far under his supervision as to secure his approbation when completed," than which nothing could have been more judicious. And another and equally wise course was carried out, that of "taking as a basis of action the principles embodied in the series of propositions adopted by the "Association of Medical Superintendents of American Institutions for the Insane," which we considered sufficiently important and practical at the time of their publication to transcribe *in extenso* into our Annual Review on Insanity for 1851[a]. We wish the authorities at home would take a lesson from our far-seeing Transatlantic brethren in such matters. Dr. Gray having been subsequently promoted to the chief charge of the New York State Asylum, he was succeeded by Dr. Van Deusen, the Assistant Physician of that institution. The Asylum is adapted for 288 inmates, half of each sex, and is fire-proof, which we have no hesitation in

[a] See vol. xii. No. 24, N. S., p. 397, *et seq.*

saying all such establishments should be. The corridors are, respectively, 155, 160, and 170 feet long, 12 feet wide, and 16 feet in height, in common with nearly all the other rooms, none of which is less than 15 feet. The floors are formed of $1\frac{1}{2}$ inch oak plank, grooved and tongued, and none more than $3\frac{1}{2}$ inches wide. The farm consists of 168 acres, and most of the land is finely timbered with the original growth of oak and other forest trees, thus adding so much to the extern beauties of the Asylum. In the appropriation of the wards we find that the greater portion of accommodation consists in single rooms, there being so many as 240, leaving but 48 to be located in dormitories. This is in the opposite degree to what prevails in these countries, the asylums in which, we consider, are entirely too much limited in single rooms and too abundant in dormitories. But this is done for economy, which is an injurious and mistaken one of its kind, and but ill calculated to promote either the recovery or the comfort of the patients.

Altogether this Asylum will be, from all appearances, most complete in its several arrangements—in fact, be a model one for the New as well as the Old World.

A large portion of this Number is taken up with notices of the Annual Reports of the principal asylums in America exclusively, none of those of the mother country being honoured with a place amongst them. Amongst other papers are, "Observations on Functional and Organic Disease," by Dr. Annan, Physician of the Western Asylum, Kentucky; and, "Hugh Miller: his suicide," which are both readable productions.

7. We know of no more indefatigable, painstaking, and disinterested labourer in all that affects the direct interests of the insane than the author of the very valuable *brochure* entitled, "Notes on Belgian Asylums, including the Insane Colony of Gheel," which is well worthy of being not only read, but carefully studied, pregnant as its several pages are with facts that cannot but prove instructive and suggestive to all immediately engaged in the treatment of insanity. Dr. Webster, its eminent author, we have long known by his professional writings, and thus to know him is to respect him for his philanthropy, and always modest, but not less enlightening, appearance in print, each of his essays presented to the professional public commanding the deepest attention.

In the present instance he gives us a very full account of the hospitals for the insane at Bruges, Ghent ("now designated the modern Manchester of Belgium, having upwards of 100,000

inhabitants, but formerly nearly double that amount"), and Gheel, the "insane colony" at the latter being very minutely described. We wish we could afford space to quote freely from this reprint, it having appeared originally in the Psychological Journal, but we are obliged to restrict ourselves to a short paragraph or two, recommending, however, its perusal in its entirety, which will be found both profitable and highly interesting.

The worthy author, like ourselves, is no supporter of the filthy vice of the day (tobacco-smoking), so common amongst the high-born as well as the most abject—the sane and the insane—as the annexed extract, in reference to one of the asylums at Bruges, shows:—

"Although not of much apparent significance, nevertheless, as it shows the great attention paid, even to minute matters of detail, a very recent improvement, or rather an important addition, which has been made to the male wards of St. Dominick, deserves being specially mentioned. *Spittoons are now placed in such apartments*, particularly those occupied by dirty patients. In this country, where almost every man and boy, nay, even women, seem slaves to that degrading, filthy custom, and health-destroying—both of body and mind—abomination, *tobacco-smoking*, these appendages become absolutely essential throughout any inhabited dwelling, whether for sane people or maniacs. Therefore, irrespective of sanitary considerations,—as most lunatics, by thus placing such saliva recipients within easy reach, may be taught to use them, instead of soiling floors or walls with their offensive spittings,—internal discipline thereby becomes materially promoted. I am no advocate of smoking; on the contrary, would strongly condemn such an unseemly habit—or vice, more correctly speaking—from believing it proves both injurious to the mental faculties, and inimical to the physical powers of many votaries. Nevetheless, if mankind will obstinately use this deleterious weed, assuredly the most excusable proselytes are lunatics. Therefore, spittoons ought always to be placed in every similar institution where smoking is permitted."

With reference to the "insane colony" at Gheel, and which is at at present attracting so much attention and discussion, as to its being applicable in its system to relieve our over-crowded asylums, Dr. Webster observes:—

"When I inspected Gheel, the total insane population under treatment comprised 774 persons, as previously stated. Of these, 409 were male, and 365 female lunatics; the town, or first section, being then most numerous. One-half of the whole number were classified as capable of, and indeed actually employed in, bodily labour, a large majority of whom comprised females, while the remainder

were reported as idle or unable to work, the greatest number of that category belonging to the male sex. Amongst the total inmates, the largest proportion, or 350 cases, were examples of mania and its varieties. Dementia came next, of which were found 265 instances. Melancholia showed 60 cases. Epilepsy supplied 51 instances, the males being 25, with 26 females; whilst the remainder exhibited less marked varieties of mental disease. The 774 patients now enumerated were distributed in nearly *five hundred* different dwellings; whereof about 300 were cottages or farm-houses in the country, the rest being residences in the town of Gheel."

And further on this paragraph occurs, with which we must take our leave of those graphic "Notes:"—

"Speaking generally, the sexes are usually lodged in separate houses. However, in regard to very aged persons, whose disease was chronic, and were of quiet, inoffensive dispositions, a man occasionally lived in the same family where an insane old woman also resided. All suicidal, dangerous, homicidal, or mischievous insane patients, are rarely, if ever, received as inmates at Gheel; while, on the other hand, should any resident subsequently come under these categories, they are forthwith sent home, or to an asylum elsewhere. Again, the authorities generally place boisterous, idle, or agitated maniacs, in remotely situated and solitary cottages or farm-houses, which occupy the open heaths; where such lunatics, having no neighbours, cannot disturb any person, or cause much annoyance. These, although excited or very noisy, may there walk about without danger to others or themselves; being thus placed beyond the observation of bystanders, not near similarly afflicted fellow-creatures."

8. The Twenty-seventh Annual Report of the Belfast District Hospital for the Insane brings the state of that institution up to the 31st of March last, and from it we find that during the year then completed, there had been an aggregate number of patients under treatment of 449, 247 of whom were males, and 202 females. Of these, 142 were new admissions during the year. Those discharged recovered were 66; 15 were relieved, 38 died, and 330 (108 males, and 142 females) remained under treatment; 221 of whom were deemed incurable, and 109 "probably curable." The time of treatment of those discharged recovered (66) was as follows:—

| | Males. | Females. | Total. |
|---|---|---|---|
| Under 3 months, . . . . . | 6 | 8 | 14 |
| From 3 to 6 months, . . . . . | 9 | 16 | 25 |
| „ 6 to 12 „ . . . . . | 8 | 8 | 16 |
| „ 1 to 2 years, . . . . . | 4 | 2 | 6 |
| „ 2 to 5 „ . . . . . | 0 | 3 | 3 |
| „ 5 to 10 „ . . . . . | 0 | 2 | 2 |
| Total, . . . | 27 | 39 | 66 |

From the above it will be seen that the large proportion of recoveries occurred between three and six months; and further, that we are not to despair of hope in the cure of insanity, though years may have elapsed from the time of its first appearance,—two cases, we see having been under treatment from five to ten years, when recovery in both was happily the result. On the subject of the cases which proved fatal during the year the Report states:—

"The deaths which occurred in the year now concluded were double those of 1855–56, having been 38 in all—those of last year being but 19. This excess may, in part, be accounted for by a large number having come under treatment—by several having been received in so completely broken-down a state of health that no other result could have been looked for but a fatal one, 5 dying in less than a month after admission—by the fact of, each year, a larger number of the older cases succumbing—and, lastly, that the deaths in 1856 were much below the usual average; for it may be observed that a mortality of from 10 to 12 per cent. is the ordinary percentage in establishments set apart for the treatment of insanity: a disease, too, which is admitted to be inimical to longevity—few of its subjects living to a ripe old age. 7 of the deaths arose from bowel affections, as already referred to; 7, also, from paralysis; 9 from general debility and exhaustion, from continued mania; 4 from phthisis; 3 each from epilepsy and struma; 2 from dropsical affections; and 1 each from congestion of the brain, rheumatic disease, and apoplexy. 6 of the deceased were between sixty and seventy; 6 between fifty and sixty; 7, forty to fifty; 10, thirty to forty; 7, twenty to thirty; and 2 under twenty. The oldest (a female) was sixty-seven, and had been an inmate twenty-two years nearly: the youngest (a male), seventeen, and under treatment but three months."

The additional buildings, which had been so tedious in their completion, appear now to be at last finished, and not only so, but fully occupied, the house being already in rather a state of surcharge, owing to the accumulation of chronic patients, as prevails in all similar establishments nearly, thus preventing, as must necessarily happen, the speedy admission of recent cases, a matter of so much importance. We are glad to find from the subjoined paragraph that "light reading" is so well provided for in this institution, and which should be generally encouraged in our public asylums:—

"In addition to other light reading already provided for the patients, the following periodicals are now also supplied to them, viz.:—'Titan,' 'Household Words,' 'National Magazine,' 'Illustrated News,' 'London Journal,' 'Illustrated Times,' 'Punch,' 'Morning

News,' &c. The above afford a pleasing and entertaining variety of the current events, &c., of the day, and give them much pleasure and amusement. But there is no reading which more arrests their attention, or is more popular amongst them, than newspapers; the diversified contents of which those who are readers amongst them will peruse with the greatest interest, all other publications holding but the second place in their estimation compared with the public press."

In connexion with the existing Royal Commission of Inquiry into the state of the Insane in Ireland, the Report states:—

"On the 10th of November last, all the Commissioners appointed by the Queen's Royal Warrant of the 8th of October, 1856, viz., Sir Thomas N. Redington, K.C.B., Chairman; Mr. Wilkes, M.R.C.S. (Commissioner in Lunacy, England), Mr. Lutwidge, Barrister-at-Law (Commissioner in Lunacy, England), Dr. Corrigan, M. D., and Dr. Andrews, Q. C., visited the house, spending from $9\frac{1}{2}$ A. M. until $3\frac{1}{2}$ P. M. in its inspection. No notice whatever having been previously received of their intended official visit, the Board, of course, had no opportunity of meeting them. Both before and since their inspection, several most voluminous and intricate Returns have been called for by, and transmitted to, the Commissioners, which required a vast amount of time and labour in their preparation—especially so from their periods not corresponding with those officially required to be in use in the Asylum—namely, from the 1st of April to the 31st March—but from the 1st of January to the 31st December; thus necessitating entirely new calculations, &c., to be gone through, the great labour of which it is almost impossible to conceive."

A lengthened correspondence which occurred between the Commissioners and the Board, in regard to the objects of their inquiry, is given in an Appendix, respecting which we cannot do more than call attention to. On looking over the names of the Commissioners, we are glad that there was at least one of their number practically acquainted with the duties set forth to be performed, however humiliating to us that he had to be taken, with another, from his own proper official duties elsewhere, to conduct a confessedly unnecessary inquiry, the one grand object of which was, as publicly stated, that under its covert another and an expiring effort might be made for the compulsory appointment of paid chaplains to all the asylums in Ireland. A ponderous Blue Book will, of course, in due time be heralded forth with loud pæans as the grand finale of this roving Commission, which, however, none but a very few interested parties will take the trouble to look at, and the cost of which will never be compensated for by any corresponding good resulting

from its concoction, our institutions for the insane in Ireland being equally as perfect in essentials as the most vaunted asylums elsewhere, and having the seeds within them of progressive improvement, without the aid of costly special commissions, or any meddlesome legislation as a necessary consequence thereof.

We have left ourselves only room to add, that the expense of this institution for the period embraced in the Report was £6314 2*s.* 7*d.*, with a daily average number of patients of 323, at an average annual cost of £19 10*s.* 7*d.* Neither tobacco nor snuff formed an item of expenditure during the year.

9. Dr. M'Munn's "Second Annual Report" of the Institution over which he so ably presides, the Sligo District Hospital for the Insane, is, like its precursor, well drawn up and judiciously arranged. In one respect it is, we consider, somewhat in advance of what the experience of Dr. M'Munn, with all his close observation of passing events, warranted him in pronouncing so emphatically upon as he has done in this Report, and which, we are bound to say, has very much the semblance of a foregone conclusion on his part. We now refer to his *ex cathedrâ* opinion upon the religious ministrations of chaplains within the walls of his institution, in connexion with which he states:—

"I believe the strict (?) observance of religious ordinances invaluable in hospitals for the treatment of the insane, and that much good may be done by the frequent, well-timed, and judicious communication of the chaplains. The chaplains of this institution report most favourably of their ministry during the past year."

No doubt they do. Just hear the Rev. E. Day, the Protestant chaplain, with what modesty he reports upon his "well-timed and judicious communications" to 22 of the total of his flock, of *every kind:*—

"I have no hesitation whatever in asserting that I firmly believe that religion should form a most essential element in the treatment of insane people."

Dr. M'Munn, the more competent party of the two, only goes so far as to say that "he believes;" but the Rev. E. Day has "no hesitation whatever in asserting"—

"That those persons who are weak in intellect, and show an idiotic tendency, can appreciate the plain and simple truths of the *Gospel*, of which *God* himself has said in *His* Word, 'that a wayfaring man, though a *fool*, shall not err therein.'"

If this be not perverting Scripture to a particular purpose, if not worse, we know not what is. But leaving this out of the question, this reverend chaplain is too flippant in his style, and too little practised in his vocation, to deliver himself thus presumptuously, and entirely contrary to the opinions both of divines and physicians, who, for every month of experience he has had, have had years, and yet would not feel qualified to speak or write after this manner. We are only sorry that the Report before us should have been permitted to have been so interlarded.

Dr. M'Munn thanks the Board of Governors, "for the paramount authority they have vested in his hands," and yet we find it afterwards stated more than once, that in the appointment and dismissal of the domestics the approval of the Board had to be sought and obtained. Strange "paramount authority" this. When the Governors deem it necessary thus to checkmate the Resident Physician, we would recommend that officer to leave the entire responsibility in regard to the appointing and discharging of the servants in their hands, and have nothing further to do with this mere *umbra* of "paramount authority."

The expenditure incurred in the maintenance of the Sligo Asylum, for the past year, amounted to £3025 16*s.* 8*d.*, being an average of £23 18*s.* 4*d.*, for each patient. The sum of £5 0*s.* 4*d.* was expended in tobacco, which, however, we are glad to know, Dr. M'Munn does not approve of, and that he has been gradually limiting its use amongst the patients.

Three *pay patients* have been admitted into the Asylum, on which subject Dr. M'Munn thus observes:—

"I am of opinion that if respectable persons, in limited circumstances, continue to be admitted, separate apartments and other necessaries suited to their position should be provided for them. I have no doubt they feel the deprivation of any of the ordinary comforts to which they have been accustomed, and that the association with the pauper patients is both annoying and injurious to these:"

—in which latter expression of opinion we entirely agree with Dr. M'Munn; but feel bound to dissent most decidedly from him in mixing up pay and ordinary patients under any circumstances in our district asylums.

On the subject of treatment Dr. M'Munn says:—

"The treatment pursued has been, in acute cases (when the subjects were young, robust, and evidencing cerebral congestion), local depletion, purgatives, the prolonged use of tepid baths, and cold irrigation over the head. In chronic cases medicines have not

been extensively employed; chloroform has been occasionally used with advantage. Narcotics have been occasionally given, but I cannot say with much benefit. I have found shower-baths useful adjuvants. Mechanical restraint has not been ordered for the last seven months, and seclusion rarely."

And as regards the disposal of chronic cases, and the proper size of asylums, he thus sensibly remarks:—

"If, in consequence of the large and progressive decrease in the numbers now happily going forward in the workhouses, the amalgamation of unions, which has been for some time mooted, takes place, some of those institutions might be made available as incurable hospitals for the insane, including epileptics and idiots, thereby doing away with the necessity of any further expenditure for increased accommodation in the existing asylums, leaving these for their legitimate object, namely, that of hospitals for the treatment of dangerous, refractory, and curable cases, in each of which it is desirable that the maximum number of patients should not exceed 300, in order to insure the proper care which such cases require."

There are several other extracts which might be given with profit to our readers from this generally well-digested and lucid Report; amongst others, that relating to the excellent plan—a novelty in Ireland—of allowing the patients to take walks outside the Asylum; but we have only space for the annexed tabular statement of the year's admissions, &c., with which we must close our notice of it:—

| | Males. | Females | Total. | Males. | Females | Total. |
|---|---|---|---|---|---|---|
| In Asylum 1st April, 1856, . . | 59 | 54 | 113 | | | |
| Admitted from 1st April, 1856, to 31st March, 1857, . . | 28 | 24 | 52 | | | |
| Do. readmitted, . . . . | 4 | 3 | 7 | | | |
| | | | | 91 | 81 | 172 |
| Discharged recovered, . . . . | 12 | 11 | 23 | | | |
| Discharged improved, . . . . | 2 | 3 | 5 | | | |
| Died, . . . . . | 8 | 3 | 11 | | | |
| | | | | 22 | 17 | 39 |
| Remaining in Asylum 31st March, 1857, . . . . . | | | | 69 | 64 | 133 |

| | 1856. | 1857. |
|---|---|---|
| Per-centage of recoveries on the daily average number resident, . . . . . | 17·14 | 18·18 |
| Per-centage of deaths on ditto, . . . . . | 10·47 | 8·7 |
| Per-centage of recoveries on the admissions, . . | 25·37 | 28·81 |
| Per-centage of deaths on ditto, . . . . . | 4·48 | 11·86 |
| Daily average number resident, . . . . . | 105 | 126·5 |

10. Dr. Thurnam, in his Annual Report of the County of Wilts Asylum, at Devizes, states that "the circumstances of the past twelve months did not call for an extended Report from him; which, on the present occasion, might be nearly confined to a single record of the events of the year."

His Report is accordingly more than usually concise on the present occasion, but still interesting in its facts: amongst which the more prominent are, that during the year the number of patients under treatment was 301, of whom 141 were males, and 160 females. The admissions for the same period were 100,—39 males, and 61 females; 20 of whom were re-admissions (6 males and 14 females). The recoveries amounted to 52, and the deaths to 28. The causes of death ascertained by post-mortem examination were, 6 of inflammation of the lungs and pleura; 4 of general paralysis (a cause greater than in any former year); 3 each of pulmonary consumption, epilepsy, and exhaustion; 2 of softening of the brain; and 1 each of arachnitis, acute mania, apoplexy, paralysis, chronic pleurisy, disease of the heart and lungs, and chronic disease of the liver.

Two of the females were admitted in a state of pregnancy, and were both in due time safely delivered in the asylum, one being a still-born birth. There were three escapes of patients, two of whom were soon after brought back, and one was permitted to remain at home with his friends. The Wilts Asylum, like so many others, is in immediate necessity of an enlargement, but we really think that the time has now fully arrived for the resident physician-superintendents to object in every legitimate way in their power to the making of additions to already sufficiently large asylums; certainly, not to encourage this *growing* evil. Dr. Thurnam anticipates much inconvenience from the crowding of patients and an interruption of due classification, on a contemplated addition to the female wing being undertaken, and from experience ourselves on this head, we can tell him that he little dreams of the disorganization and innumerable discomforts which will most assuredly follow in the wake of tradesmen coming within the walls of his institution; and we accordingly feel it only a bounden duty earnestly to forewarn on this head, in the hope of all parties concerned being enabled to be forearmed.

Dr. Thurnam writes forcibly on the necessity of a fund being established for the immediate relief of discharged patients, which we have no hesitation in saying would be a most desirable adjunct to all such establishments, and be the means of preventing not a few cases of relapse from the circumstance, which too often occurs with discharged patients, of having nothing but poverty and discomfort to contend against, at the

time of all others when they require the most judicious and careful attention on the part of kind friends, instead of the trying condition to even the soundest in mind and body arising from the *res angustæ domi*. At Hanwell Asylum it appears there is an available fund of £300 per annum for this most laudable purpose, arising from a sum of £14,000 invested in stock, and to which the late Queen Adelaide was a liberal contributor. At Colney Hatch Asylum a fund of the same kind also exists, to which her present Majesty, with her usual considerateness, has given freely.

11. The Seventeenth Annual Report of the Crichton Institution is the last which will appear having for its author Dr. Browne, who, since the opening of this establishment, has been its Resident Physician-Superintendent, and obtained for it, through his eloquent reports and able management, a name and a place, the very chiefest in excellence, amongst kindred institutions. We have frequently before had the great pleasure of noticing in those Annual Reviews the Reports of Dr. Browne, with copies of which he always supplied us; and here, shortly to digress, we may observe, that our rule, in general, is to embrace alone in our notices those Reports, &c., which are sent to us direct, so that if any be not in our list, the fault of the omission is not on our side. This we stated on a former occasion, and repeat it now again, for the guidance and information of Superintendent-Physicians, and others engaged in the specialty of insanity.

To return, however, to Dr. Browne's Report, a glance at the one now under consideration shows that it is fully equal to those which have preceded it for enlightened views, true philanthropy, and valuable information in all relating to the treatment of the insane generally, and those more particularly under his own immediate charge, of whom we find he had, during the year ending in November, 1856, the large number of 395, which are thus accounted for:—

| | | |
|---|---|---|
| In the Institution, 11th November, 1855, . . | 313[a] | |
| Admitted since, . . . . . | 82 | |
| | | 395 |
| Discharged as recovered, . . . . . | 50 | |
| Discharged as improved, . . . . . | 13 | |
| Died, . . . . . | 25 | |
| | | 88 |
| Remaining under treatment 11th November, 1856, | | 307 |

[a] The numbers in this Summary Table are not classified as to sex, which we consider an oversight.—Rev.

The discharges in recoveries, we are informed, were "more than 50 per cent. on the admissions," as they would, no doubt, if confined to them exclusively; but we take for granted some of them occurred amongst the inmates of longer standing; but of this we are not given any data to judge, the period of time of treatment not having been given, which, perhaps, would have been desirable as being more statistically complete. Of the 82 new admissions, 24 were of the affluent class, and 58 were ordinary inmates, the former being selected from 101 applicants, and the latter from 119 of those who were indigent. Dr. Browne states, in regard to the deaths which occurred, that 8 were boarders, and 17 paupers; that 5 of the casualties occurred within a few weeks after their admission, 5 suddenly, and the remainder of exhausting ailments characteristic of affections of the nervous system, viz., epilepsy (3), paralysis (3), and apoplexy (2).

Referring to the recoveries and improvements which frequently take place almost immediately following a patient's admission into an asylum, Dr. Browne very truly observes:—

> "Recovery and improvement often occur suddenly, contemporaneously with crossing the threshold of the asylum, as if the influence of discipline, the helplessness, the effeteness of a single will, the absorption of personality in the general movement of a large establishment, and the order and restraint which obtain, acted as great revolutions in the economy in rousing, recalling consciousness and control."

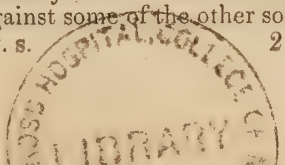
Dr. Browne observes upon the great difficulties there are in ascertaining the real physical condition of those admitted under treatment; and that those even who had, during a lifetime, been associated with the insane are led into error. He most graphically describes the several phases of alienation which came under treatment during the year, and which, if we could reproduce here, would afford much to interest the reader; but we are compelled to pass them by, together with other important matter, for which we must only refer to the Report itself, the whole contents of which are valuable and practical.

Dr. Browne, as we already observed, has now closed, with this Report, his official connexion with Crichton Asylum, having been recently appointed to office in the new Commission in Lunacy for Scotland, than which a better selection could not have been made—one, however, which the Government of the country was *compelled* to make. The new Commissioner takes with him into his higher and well-deserved office the best wishes of every member of the particular branch

of the profession to which he belonged, and the trying and onerous duties of which he ever discharged with such honour, zeal, humanity, and consummate ability, as to elevate it as a specialty, and to leave behind him as a Resident Physician a name and character which will always redound to his fame.

12. The Aberdeen Asylum, under the able and judicious management of Dr. Jamieson, continues to hold a justly high place amongst the Scotch public asylums. Its last Report, drawn up, as usual, by Dr. Jamieson, is short and practical. Special reference is made to the Report of the Scottish Lunacy Commission as far as regards this establishment, in which Dr. Jamieson states, that though not a little credit is given by the Commissioners to the Asylum, they make remarks upon it "inaccurate in part, seemingly, and liable to be thought ungenerous and unfair in spirit." Dr. Jamieson, on behalf of the Aberdeen Asylum, goes on to say, that its "alleged defects are mostly dubious, or in the rank of such misapprehensions or exaggerations as might be expected only from a Commission which had not one single representative of the management or of the officials before their court of examination," which appears on the face of it as somewhat extraordinary and requiring explanation. Dr. Jamieson informs us that the Aberdeen Asylum was one of the earliest to adopt the non-restraint system, which has been fully carried out "without the substitution of prolonged seclusion, or other modes of harsh treatment." Again, he significantly mentions, that "it has not followed in the wake of others, but kept going with the times;" and that "its patients never have been kept immured for lengthened times within doors at work, nor has any attempt been made to task themselves rather for the advantage of the institution than for their own profit;" and that, "although it cannot, in competition with some hospitals, be represented that its patients club together for the production of a volume of essays, or engage in the editing of newspapers, and in the acting of dramatic performances, they are encouraged to occasional association together in concerts; are furnished with various means of indoor diversion, such as billiards, bagatelle, cards, chess, draughts, and musical instruments; besides having such out-door amusements as walks, cricket, quoits, bowls, and from time to time visits and excursions." If amusements, such as the above, be not considered sufficiently varied and liberal for the inmates of an hospital for the insane, we are at a loss to know what would. There are evidently some hard hits in these observations of Dr. Jamieson against some of the other so-called "char-





tered" Scotch Asylums, in most of which there would appear to be a race of competition as to which should carry off the palm for the greatest and most constant variety in the way of fashionable entertainments and exciting amusements for their inmates, which we consider somewhat bordering on the extreme, and, under the circumstances, rather out of place.

Not further to enlarge on this portion of Dr. Jamieson's Report, which indeed is its chief item on the present occasion, we next give the following statement of the year's admissions, &c.:—

| | Males. | Females. | Total. |
|---|---|---|---|
| Under treatment, 1st April, 1856, . . . | 138 | 141 | 279 |
| Admitted since, . . . . . | 46 | 57 | 103 |
| Under care and treatment during the year, . | 184 | 198 | 382 |

The above are thus accounted for:—

| | Males. | Females. | Total. | | | |
|---|---|---|---|---|---|---|
| Discharged recovered, . | 20 | 24 | 44 | | | |
| „ improved, . | 3 | 5 | 8 | | | |
| „ unimproved, | 7 | 10 | 17 | | | |
| Died, . . . . . | 10 | 10 | 20 | 40 | 49 | 89 |
| Remaining under treatment 31st March, 1857, | | | | 144 | 149 | 293 |

The causes of death were, 3 each of paralysis and exhaustion; 2 each of epilepsy, disease of brain, and phthisis; 1 each of erysipelas, disease of urinary organs, gastritis, laryngitis, diarrhœa, disease of knee-joint, apoplexy, and bronchitis.

The year's expenditure amounted to £5754 18*s.* 8*d.*, in which we are happy to see no charge brought forward for tobacco in any form.

We must not omit to mention that, appended to this Report are an excellently executed lithographed representation of the ground plan, and an isometrical drawing of the present state of the Asylum and its grounds, prepared by Mr. Ramage, architect.

Each of our public hospitals for the insane should follow this example; the expense could not be very much, and the advantage would be very great of having a ground plan and elevation of each in their Annual Reports.

13. Several pages of the Report of the Perth Asylum for the present year are taken up with a lengthened disquisition on the propriety of tobacco-smoking and the taking of snuff being permitted among the patients of an hospital for the

insane. We consider the space thus occupied might have been turned to a more profitable account, and our only regret is, that a scientific member of the profession, as Dr. Lindsay undoubtedly is, should, in however modified a way, be an advocate for the "vile weed" in question, in any shape.

It is very strange that the Perth Asylum Directors should continue to withhold from the public any statement whatever of the expenditure incurred in the maintenance of their institution. We felt it our duty to remark upon this important omission in a former Annual Review[a], and we now again call attention to it in the hope that this most needful information will not be continued to be withheld. Very large funds, we believe, are at the disposal of the Directors, and on every account we maintain they are bound to let the distribution thereof be no longer kept secret. Their institution is the only one we know of that acts in the manner we have indicated, as regards its income and expenditure. This should not be.

The general results of the year were as follow:—

| | Males. | Females. | Total. |
|---|---|---|---|
| Remaining under treatment for the year ending June, 1856, | 78 | 68 | 146 |
| Since admitted, | 23 | 24 | 47 |
| Total treated during the year 1856-57, | 101 | 92 | 193 |

| | Males. | Females. | Total. | | |
|---|---|---|---|---|---|
| Discharged recovered, | 7 | 15 | 22 | | |
| „ improved and unimproved, | 3 | 6 | 9 | | |
| Died, | 6 | 1 | 7 | | |
| | — | — | —16 | 22 | 38 |
| Remaining in Asylum, June, 1857, | | | 85 | 70 | 155 |

The causes of the deaths were, 2 each of maniacal exhaustion and general paralysis; 1 each of apoplexy and intercurrent pneumonia of phthisis; and 1 from suicide by strangulation. There is in this Report, as formerly, a considerable amount of minute particulars of an interesting kind, of the treatment pursued—medical, moral, industrial, instructional, and recreational—together with copious statistical and some microscopical information; the Report clearly showing that its able compiler, Dr. Lindsay, is well qualified for the performance of his duties, and intensely alive to the best interests of his patients.

[a] See vol. xviii. No. 36, N. S., p. 393.

14. The last book in our extended list for noticing in our present Review is Dr. Kirkbride's Report of the Pennsylvania Hospital for the Insane, for the year 1856. The author holds a very eminent place amongst the American Superintendents, who are a most indefatigable and painstaking body of men in their specialty, and who deserve the greatest credit for the rapid strides they are making in rendering their institutions models of excellence and advance in the philosophical treatment of their patients. And second to none, either on this or the other side of the Atlantic, is Dr. Kirkbride, whose name is well known, and equally respected, for his great ability and philanthropy on behalf of the insane classes. His Report, now before us, is full, interesting, and suggestive in its several departments, and had we space at our disposal we could transcribe into our pages many passages well worthy of the attention of our readers. We annex a few, only regretting our inability to give more. The first bears upon a subject respecting which his explanation appears quite satisfactory:—

"It is a common cause of surprise that so large a number connected with agricultural pursuits are received into our hospitals for the insane; and the question is constantly asked, why so many engaged in an occupation, which has ordinarily been regarded as among the most healthful, should be affected with mental disease? Assuming the number of cases received as a fair indication of the amount of insanity occurring in the different classes of the community, all kinds of theories have been given in explanation of so unexpected a result. While some have attributed this supposed condition of things to what they regarded as the strong diet which farmers used, even specifying pork as the objectionable article, others have been equally decided that it was owing entirely to their want of amusements, or their hard work and frequent exposure. The fact is, however, that no pursuit is more healthful, or more likely to secure mental tranquillity, as well as physical well-being, than the stirring life, the regular and active exercise in the open air, and the variety of occupation, which belong to the agriculturist. Although, perhaps, less susceptible to some of the moral causes of insanity than many other classes,—for sound health, regular habits, and labour in the open air, are among the greatest safeguards against many of them,—still they cannot be expected to escape entirely the influence of those to which all are exposed. They, too, must have griefs for which there is no solace, sorrows that leave their impress in every heart of ordinary sensibility, sources of mental anxiety that none can hope wholly to escape, reverses of fortune, and disappointed hopes, that often, especially if joined to impaired health, quietly but surely undermine the fabric of human reason."

The following extract on "Hereditary Tendency" we consider much to the purpose:—

"Hereditary tendency has not been recorded as a cause of insanity, because, where it is so, it is a predisposing, and not an exciting one. Strong as the predisposition may be, something more, although apparently trifling, is requisite to develop the disease. Although in many cases this hereditary predisposition is strong, still, the very large number in which not the slightest shade of it could be detected, is sufficient to show that none can feel entire security that they may not suffer from the disease, because in a long line of ancestors no trace of it could be discovered. Cases are frequently referred to, by careless observers, as hereditary, which really are not so; the example of two sisters, none of the ancestors of whom had been insane, or where an uncle or nephew had been insane, without any other relatives having suffered from the disease, are clearly not hereditary, however much, from their social relations, they may have been exposed to the same exciting causes. Sound sleep, at regular hours, is highly important for every person predisposed to this form of disease, but the want of it is believed, of itself, to be very rarely a cause of insanity. It is more commonly merely the result of other causes, and, in many instances, only a symptom of the first stage of the disease. These views will account for 'loss of sleep' not being found among the causes enumerated in the Table."

On the value of occupation of some kind or another, as a prophylactic against mental disturbance, Dr. Kirkbride thus sensibly writes:—

"There is also another interesting fact made out pretty clearly, and that is, that any respectable occupation is better for mental health than having none at all; the number of admissions of males here with 'no occupation' being as high as 212, and, without doubt, showing a higher proportion relatively than any of the callings referred to in the Table. This might naturally be expected, for very many persons, without some regular occupation, either of private business or public trusts, seem unable to pursue that course of life best calculated to maintain physical health or permanent mental integrity, but gradually fall into habits that, sooner or later, prove destructive to both."

Like so many of our own asylums, the Pennsylvanian one was crowded during the past year, and so many as 50 had to be refused admission from want of room. The total number in the hospital during the year was 396, the highest number at any one time being 244, and the lowest 224. The numbers as to sex, during the year, were—males, 194, females, 202; the highest of males, at any one time, being 128, and of females, 125. The male admissions for the year were 74, and the

females, 92. The number of recovered cases during the year was 89; improved, 48; not improved, 13; and of deaths 22 (8 males, 14 females); the causes of death were:—7 of acute mania, 3 each of softening of the brain, phthisis, chronic diarrhœa, and gradual exhaustion induced by high mental excitement, want of sleep, and a steady refusal of food; 1 each of congestion of the brain and dysentery; and 1 was a case of suicide, but by what means is not stated, which we consider an omission, it being always desirable to give the fullest particulars of such unfortunate but unavoidable casualties, the prevention of which in asylums, however carefully and diligently superintended, cannot be altogether guarded against. The great surprise is that so few comparatively occur in them. We would beg to recommend to Dr. Kirkbride that the year's results, as regards sex, admissions, numbers at beginning and end of the year, deaths, &c., &c., should all be condensed in one general Table, which would be a great convenience to the reader.

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*Manuale Completo di Ostetricia per gli Studenti Medicina e Chirurgia e per le Levatrici.* Del Dr. Vincenzo Balocchi, &c. Con 146 figure intercalate nel Testo. Firenze: 1856. Fcap. 8vo, pp. 894.

*A Complete Manual of Obstetricy, for Students in Medicine and Surgery, and for Midwives.* By Dr. Vincenzo Balocchi. Florence: 1856.

Obstetric science stands but little indebted to Italian literature. We are not aware of any Italian accoucheur whose name is "known to fame" as a discoverer, improver, or author. We were, therefore, all the more pleased to meet with this compendious and well-executed Manual of Midwifery. From the preface we learn it is a second edition, the first having appeared in 1847. It is the text-book of the students in the Maternity Hospital at Florence, in which Dr. Balocchi is Professor of Midwifery and Operator. The illustrations are numerous: some of them are original, and all are fair specimens of wood-engraving.

The work is divided into five books. The *first* is devoted to the consideration of the normal anatomy, and the pathology of those organs in the female which are subservient to generation, pregnancy, and parturition. The deformities and malformations of the pelvis are treated of at some length in the latter part of this first book, and a description given of the different modes of measuring the pelvis. Of pelvimeters, the

author gives a preference to that of Professor Van Hueval, of Brussels; of which, however, all we can say is, that it appears to be the least imperfect instrument of the kind that has yet been invented. "Besides these modes of measuring the pelvis," writes Professor Murphy, "there are what have been called 'digital measurements;' or, in other words, the experienced accoucheur, from constant habit, when he passes the finger or hand into the vagina, will form a very accurate estimate of the space in the pelvis." With these remarks we entirely concur.

The *second book* relates to the function of reproduction, and to the fruit of conception. The signs and symptoms of pregnancy, and the diseases of this state, are here described. A very interesting article is introduced upon the diseases which may occur during pregnancy, and the influence that this may exercise upon them, and *vice versâ*. This opens a large and important field for investigation, and one that has been but little explored. Dr. Balocchi's remarks are good so far as they go, but then they are very brief and general. In France, Grisolle has done a good deal to advance our knowledge in this direction, and has given a full history, based on copious statistics, of the mutual influence of pneumonia and pregnancy, and of phthisis and pregnancy. In the Number of this Journal for November, 1854, is the abstract of a Paper on this same subject by Dr. M'Clintock; and in the November Number of the following year will be found a short communication from Professor Montgomery. These are almost the only contributions we know of specially treating upon the reciprocal influence of pregnancy and disease, if we except the essay by Dr. Warren, reviewed in our present Number[a]. The "hydatigenous mole," about the pathology of which so much confusion has prevailed, the author regards as a disease of the chorion, the cysts most frequently showing themselves in the rudimentary placenta, but not confined exclusively to this part of the membrane. The other diseases of the ovum and the diseases of the fœtus in utero are all treated of, but, of necessity, in a very dry and condensed manner. Indeed, in a Manual such as this, intended only for pupils and midwives, we could not reasonably expect to find lengthened articles on all these subjects.

The *third book* relates to parturition. It is divided into two sections, the first of which includes all cases of labour that are terminated by the natural efforts, without injury to mother or child; and the second section embraces all the forms of dystocia, and the more serious complications which may arise

[a] See page 431.

in the course of labour, imperilling the safety of mother or child. In regard to the mechanism of parturition (which falls under consideration in this third book), the author, we are glad to find, follows the doctrines of Naegèle, in preference to the more artificial and complex classification of Baudelocque.

The *fourth book* is entirely taken up with descriptions of all the obstetric operations, and the modes of performing them. Ample instructions are laid down for the guidance of the operator, and, on the whole, these rules are clear and judicious. The plates illustrating the manner of using the forceps after it is applied to the head present a novel feature. By a combination of curved and spiral lines, we have exhibited to us in an intelligible way the directions in which the traction of the instrument is to be exerted. By this addition the value of the drawings to the student is considerably increased.

The *fifth book* treats upon the management of the third stage of labour, and of the new-born infant; and also of some of the diseases which may complicate the puerperal state.

Such is a condensed analysis of the contents of Dr. Balocchi's Manual. We regret that unavoidable circumstances prevent our giving it a more extended notice, and entering at length into some of its details. That a work of such scientific pretensions should be intended for midwives will, no doubt, appear strange to many of our home readers. It argues, in truth, a bad state of things, and shows that in Italy, as well as in Germany, France, Norway, &c., midwives continue to monopolize the great bulk of obstetric practice. Whether these countries will ever become reformed in this matter, and emancipate themselves from the dominion of Gamps and Harrises, is a question in political economy too profound for us to be able to solve.

This is altogether a well "got-up," judiciously compiled book, and is well adapted to the purpose for which it is intended. It possesses one feature, at all events, that will commend it to pupils,—it is unincumbered with references to authorities, or with statistics. It is not free from some faults, but only such as are common to the whole species of books called "Manuals." We have already alluded to the illustrations: they are numerous, effective, and well executed, and although we recognise among them some old friends, still a very large proportion seems to possess the very rare merit of being original designs.

*Lærebog i Födselsvidenskaben for Jordemadre.* Ved DR. F. C. FAYE, Professor i Födselvidenskab; Fruentimmer og Börnesygdomme ved Universitetet, Overlæge ved Födselsstiftelsen og Bestyrer af Jordemoderskolen i Christiania. Andet Oplag. (Omarbeidet og foröget.) Med 39 i Texten indtrykte Tegninger. Christiania: Feilberg og Landmark, 1857.

*A Manual of Obstetric Science for Midwives.* By DR. F. C. FAYE, Professor of Midwifery and the Diseases of Women and Children in the University; Principal Physician to the Lying-in Institution; and Director of the School of Midwifery in Christiania. Second Edition. Revised and enlarged; with thirty-nine woodcuts inserted in the text. 8vo, pp. 220.

THIS is an exceedingly neat, comprehensive, and highly practical manual, intended for the instruction and use of midwives in a country where medical aid is less generally accessible throughout the kingdom than is the case with us. It is consequently calculated to be useful not only to the class for whom it is more immediately designed, but also to the medical student, and as refreshing to the memory even to the obstetric practitioner himself. It is divided into eight chapters, treating respectively of the structure of the human body in general, and of the female organs in particular; of pregnancy; of the several modes of examination, a subdivision of the chapter being given to the special examination of the pelvis; of regular labour and its treatment; of the regular course of the subsequent confinement, and of the care of the mother and child; of irregularities in the nature and in the course of pregnancy and labour, and of their treatment; of the most important and most usual morbid affections of the lying-in woman and of the new-born child; and lastly, of some special rules for midwives in the exercise of their profession. A work so essentially elementary is scarcely suited for closer examination in our Journal; we shall therefore content ourselves with observing, that in clearness of arrangement and description it bears evidence of the experience and ability of its distinguished author; and that the anatomy of the parts concerned in gestation and delivery, the condition of the fœtus at various periods of intra-uterine life, its normal position in the womb, the structure of its cranium, and the mode of its passage through the outlet; the nature of several abnormities in the

shape of the pelvis, in the presentation of the child, and in other circumstances attending pregnancy and delivery, are made particularly plain by means of the numerous woodcuts with which the volume is illustrated.

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*Die Kindheit des Menschen. Ein Beitrag zur Anthropologie und Psychologie.* Von Dr. Oskar Heyfelder, Privatdocenten an der Universität zu München. Erlangen: Verlag von Ferdinand Enke. 1857. 8vo, pp. 92.

*The Childhood of Man. A Contribution to Anthropology and Psychology.* By Dr. Oscar Heyfelder, Private Lecturer in the University of Munich.

In the above-named very useful work the author treats consecutively of the physiological and psychological history of childhood; of hereditary influences, and of the effects of impressions during fœtal life, and during the period of suckling; of nursing, and education; of punishment, and its several modes; of the effects of too early exertion; and of the period of puberty.

In the second division of his subject he details, in a note, some interesting particulars of the process of "learning to see," in the case of an intelligent young girl who had become perfectly blind in her seventh year, and continued so for ten years, at the end of which time, under the influence of galvanism, she recovered the power of vision, having completely lost all ideas derived from the sense of sight. This case may be taken as a practical commentary on the *à priori* answer in the negative, given by "that very ingenious and studious promoter of real knowledge, the learned and worthy Mr. Molineux," to a problem propounded by himself, and quoted by Mr. Locke in his Essay concerning Human Understanding, as to "whether a man born blind, and now adult, having learned to distinguish, by the touch, between a sphere and a cube, could, if restored to sight, tell by the eye alone which is the cube and which the sphere?"

In speaking of punishment, the author condemns as one of the most injurious forms the withdrawal of necessary food; and he appeals to the writings of Charles Dickens, and to the story of Jane Eyre, by Charlotte Brontë (Currer Bell), in support of his belief that some "private educational institutions in England, which, agreeably to the individual liberty of the

English, are under no State control, are especially notorious in this respect." Dr. Heyfelder also very justly condemns the adoption of a withdrawal or diminution of sleep as a means of punishment. He points out the many evils which flow from the unnatural and reprehensible custom too prevalent in all countries and ranks of life, of threatening children with a bugbear or black or wicked man, "who is so naturalized in our Fatherland that he occurs almost in every province under a specific form and proper name, derived either from historic recollections or local association. Thus in the chain of mountains between Silesia and Bohemia, we are threatened with Number Nip (Rübezahl); in Thuringia, with Quintus (Carolus Quintus); in Franconia, with Pelzmärtel; in Switzerland, with Bölliman, or the child-eater; in Suabia, with the harmless Kaminfeger." Confinement, judiciously used, is a suitable punishment, to which there is no objection on medical grounds, but it must not be so employed as to add terror to loss of liberty.

The author next enters at some length into the consideration of the evils which result from premature bodily and mental exertion. It will be seen that his volume is not one merely of medical interest: it is calculated to be useful not only to the physician, but also to the statesman, the lawyer, the clergyman, the teacher, and the parent,—to all, in fact, who have to do in any way with the physical and moral education of youth. Dr. Heyfelder's present work is one from which extracts might be advantageously introduced into some of the numerous popular miscellanies, whose abundant issue from the press is a striking characteristic of our day.

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*Notes on the Cholera at Varna in* 1854, *and more especially in Her Majesty's ship "Agamemnon," in the Black Sea, between the* 1*st August*, 1854, *and* 8*th September*, 1855. By George Mackay, M.D., &c., Staff Surgeon, Royal Naval Hospital, Plymouth, &c. Edinburgh: Murray and Gibb. pp. 43.

*A Copy of the Medical Statistical Returns of the Baltic and Black Sea Fleets, during the years* 1854 *and* 1855. Ordered by the House of Commons to be printed, 27th February, 1857. pp. 115.

The little pamphlet which heads this notice is intended by its author as a contribution to the records of cholera, in which he endeavours to show the contagious nature of that

malady, and to trace its rise in the British army and fleet from the infection imported by the French troops from France, directly. In the Preface he says:—

"Believing that the epidemic which appeared amongst the allied troops, at Varna, in July, 1854, and afterwards in the fleets at Baljïk, can be traced to its source in France, where it was known to exist in March of that year; and that its subsequent course can be fairly tracked in the company of the troops across the Black Sea to the Crimea, the Alma, Balaklava, and as far as the Straits of Kertch: I am anxious to bring the question of its origin more prominently before the profession, with the view of directing attention to the inestimable advantages that would accrue to our fleets and armies were they to adopt certain preventive measures, whenever exposed to the contagious influence of the disease."

And again:—

"If the view here advocated be the correct one (and it is one entertained by not a few of our medical brethren), then the inference, in the single instance of the outbreak in the allied fleets at Baljïk, is unavoidable, viz., *that an immediate removal from the infected locality*, or, failing that, the adoption of a few simple but stringently preventive measures, would, in all human probability, have saved the lives of hundreds of men."

We quite agree with the latter quotation, and we have italicised what we consider the pith of the observation: "immediate removal from the *infected locality*" being unquestionably the only certain way of staying the progress of epidemic cholera.

In the limited space which we can devote to a notice of this little *brochure*, we do not intend to argue the question of contagion or non-contagion, beyond examining the facts upon which the author depends for the maintenance of his proposition, that "this dire scourge [the cholera], which committed such ravages amongst the allied troops in Bulgaria, and the allied fleets anchored off its coast, was, in my opinion, undoubtedly imported from Marseilles and Gallipoli by the numerous levies of French troops, which were frequently arriving to swell the strength of the army preparing for the invasion of the Crimea."

After stating the various heavy duties which had been performed by the "Fleet," and by the "Agamemnon" in particular, the author relates his experience of the outbreak of cholera at Varna, coast of Bulgaria. He says:—

"A sporadic case of cholera occurred in the French camp on the 17th of June, 1854, and another case on the 3rd July; but as

200 French troops had arrived in the French steamer 'Caçique,' from Gallipoli, and other troops followed them almost daily, it is not unreasonable to infer, that the disease, which, since 1848, was unknown at Varna and its neighbourhood until after their arrival, accompanied them in their transit. And this inference is strengthened by the fact that the French war steamer, 'Dauphin,' sent a case of cholera to the French military hospital at Varna on the 10th July, the same day that she arrived from Gallipoli. Up to that date no case of cholera had appeared or been received into that hospital; but after that, viz., on the 11th July, two of the patients in the hospital were attacked, and died; next day, three or four more; two fresh cases came in on the 14th July, and died; after which the number of cases increased daily. Several of these were from the French transports in the bay; but the greater number from the troops encamped on the plain at the foot of the hills.

"The first decided case amongst the British troops in Bulgaria occurred in the British military hospital at Varna on the 21st July, according to Mr. Deas, then Deputy Inspector of Hospitals and Fleets; but, according to my notes, taken during a conversation on the 28th July with Dr. Hall, the Army Inspector-General, the first case occurred in the hospital on the 22nd July, on the evening of which day the disease broke out with great virulence amongst our troops at Devnagh."

Now all this, no doubt, would be seized upon by the contagionist as proof of the strongest character that the cholera was imported directly from France, where the disease then admittedly prevailed; but, on the other hand, the non-contagionist would ask, did cases of cholera prevail on board the French transports or war steamers until they had arrived at the coast of Bulgaria, where, according to the author, diarrhœa had for some time prevailed in both the allied armies and fleets? Now, as it is not reported that any cases of cholera had appeared in the French ships of war or transports before their arrival at Varna, or its neighbourhood, and as diarrhœa admittedly prevailed in all the ships on the coast of and among the troops in Bulgaria, the non-contagionist would argue that the choleraic tendency had prevailed at Varna for some time; and that the cause of the outbreak is to be attributed to the many local exciting sources, easily discovered in the marshes around Varna, the Lake Devnagh, and the crowded and filthy state of the town itself, besides the admitted defective sanitary arrangements in the allied armies and among the crowded transports. And he would further say, the sudden outbreak of the disease, "with great virulence, amongst our troops at Devnagh," cannot be accounted for by any direct contagion, but by the exciting influences of the locality.

Regarding the cases of cholera which took place on board the "Agamemnon," it appears from the "Notes" of Dr. Mackay, who was then Surgeon of that ship, that, between the 1st of August, 1854, and 8th of September, 1855, thirty-one occurred, of which twenty-four died, and that twenty-two of the cases were "clearly traceable to cases exterior to the 'Agamemnon;' the patients being men who were taken ill, either on board the transports, in which they were at work, or shortly afterwards." It also appears that the disease, though appearing daily among the working party employed in the transports, and who were received on board the Agamemnon, did not spread among the part of the crew not exposed to the exciting influences of an "*infected locality*" either on shore or on board a foul transport; hence the non-contagionist would be led to infer that there is strong conclusive evidence in the "Notes" of Dr. Mackay, that the disease might not have been propagated by contagion, but by the poison of an infected locality. Indeed, throughout the "Notes," in nearly every instance related, such is the evidence, and such might be the deduction; we, therefore, cannot regard his evidence, if taken by itself, as conclusive evidence of the contagion of this disease, and which has been repeatedly asserted in our pages, but on much better grounds. In the present instance we have merely examined the evidence before us, and we do not find that it bears out the view the author seems to entertain, that cholera is imparted from a person labouring under the disease to a healthy individual, both at the time of contact being in an *uninfected* locality; on the other hand, there is abundant proof, as there has been in thousands of other instances, that certain places, in certain conditions of the atmosphere, a town, a house, a ship, became foci of infection, frequently imparting the disease to every one who has the misfortune to remain within their influence for a certain limited space of time. At all events, whatever previous views the professional reader may entertain, he cannot but be instructed by a perusal of the interesting "Notes" on the cholera at "Varna," and on board the "Agamemnon," as put forth by Dr. Mackay, late Surgeon of that ship; and he will not fail to give that gentleman credit for the strict impartiality with which he has performed his task, and will admire the spirit of candour and truth which pervades his published "Notes."

We find that Dr. Mackay, like most others, discovered that cholera was not very amenable to treatment, and that at certain times it became quite intractable, cutting life short in a very few hours. He seems to have found calomel the most effective remedy, and gave it in various ways, both in large

and small doses. He tried the absurd "castor-oil treatment," but immediately and sensibly dropped it, when he found it to be worse than useless. One or two other means he mentions which had often been tried before—and what has not been tried?—but did not find them to answer his expectations, in fact, to come up to the character he had heard of them. So, alas! have we all, when induced to try the pet, vaunted remedies of others! With regard to the prophylactic measures adopted by Dr. Mackay there can be only one opinion, that they were highly judicious.

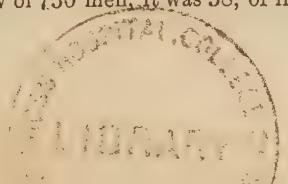
In the part of the Preface which we have already quoted, the author has struck upon the certain means of staying the progress of cholera, or, indeed, plague or yellow fever,—"immediate removal from the infected locality." Be the disease in a house, a street, a town, or a ship, remove the sick, remove the healthy; cleanse, purify, ventilate the infected locality; find out the sanitary sore, heal *that*, and the pestilence will disappear as the chilling mists of morn roll away before the rising sun.

"The Medical Statistical Returns of the Baltic and Black Sea Fleets" we can recommend to the notice of our readers, as they contain a vast amount of useful information, carefully compiled by Dr. Bryson, of the Admiralty, Somerset House. Regarding them, Dr. Bryson says:—

"The following Report on the Health of the Baltic and Black Sea Fleets, drawn up from the Medical Returns in the office of the Director-General, does not materially differ from the Reports on the Health of the Navy which have preceded it. An attempt, however, has been made, in the present instance, to ascertain the relative amount of sickness in the respective vessels, by adding together the number of days each patient remained in the surgeon's list, and dividing the sum by the number of days in the year, the quotient will thus show the average number of men sick daily throughout the year; and in the same manner the loss of service or labour through wounds and sickness in a whole fleet may be ascertained."

In illustration of this the Report states:—

"Thus, as is shown in Table II., the total number of days of sickness in the 'Britannia' amounted to 15,142, which, in a crew of about 920 men, shows a loss equal to 41·5 men daily in the complement during the entire year. In the 'Trafalgar' the loss was equal to about 47·6 in 960, the proportionate loss in these two vessels being about the same, namely, 4·4 per cent. In the 'Queen,' with a crew of 970 men, the loss was equal to 31, or 3·2 per cent.: whereas in the 'Albion,' with a crew of 730 men, it was 38, or in the proportion of 5·2 per cent."



And so on, the Report gives many other comparative instances, and which, under the head of the various diseases, shows from what each ship suffered most. It would be impossible for us to attempt anything like an analysis of these important "Medical Statistics," and we can only say that every medical practitioner, but especially the medical officers of her Majesty's fleets, will reap both interesting information and profit from a close examination of this important "Return."

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*Discussion i det Norske Medicinske Selskab i Christiania angaaende Syphilisationen.* (Copie af Norsk Magazin for Lægevidenskaben.) Stockholm: Carl C. Werner og Comp. 1857. 8vo, pp. 162.

*Discussion in the Norwegian Medical Society of Christiania on the Subject of Syphilization.* (Extracted from the Norwegian Magazine of Medical Science.)

*Undersögelser angaaende Inoculation af Vaccine-og Chankermaterie, for at constatere Immunitetsforholdene og deres Consequentser.* Ved Dr. F. C. Faye, Professor i Accouchement, Fruentimmer- og Börnesygdomme ved Universitetet; Overlæge ved Födselsstiftelsen og Börnehospitalet i Christiania. (Copié af Norsk Magazin for Lægevidenskaben.) Christiania: Trykt i Carl C. Werner og Comp.s Bogtrykkeri, June, 1857. 8vo, pp. 70.

*Investigations concerning the Inoculation of the Matter of Cowpock and of Chancre, with a view to establish the conditions of immunity, and their consequences.* By Dr. F. C. Faye, Professor of Midwifery, and of the Diseases of Women and Children, in the University of Norway; Principal Physician to the Lying-in Institution, and to the Hospital for Children at Christiania. (Extracted from the Norsk Magazin for Laegevidenskaben.) Christiania: Printed by Carl C. Werner and Co. June, 1857.

The discussion reported in the first of the above-named volumes occupied the Medical Society of Christiania during eight meetings, on which occasions Professor Faye, who originated the discussion, and Professor W. Boeck, who has already placed his views on syphilization before our readers in a special communication to this Journal (vol. xxiii. p. 77) were among the principal speakers. Professor Faye has since undertaken a more accurate investigation of the subject, and has instituted

some experiments on inoculation with vaccine matter and with the matter of chancre, in order to compare the respective degrees of immunity which may probably be thus obtained. He was led to adopt this course in consequence of the expression of opinions during the discussion which—"make it doubtful whether our knowledge with reference to the alterative power of vaccination on the system is to be depended on, and whether it is based upon sufficient experience that this operation affords in the first place a certain immunity, though for an undefined period, from the action of vaccine matter itself; and secondly, in virtue of a supposed relationship to the effects of variolous matter, from the action of small-pox."

Secondly, the discussion alluded to elicited "a difference of opinion as to whether the virus developed in a chancre produces, after a greater or less number of inoculations, a real immunity similar to that supposed to be obtained in vaccina and variola; in considering which, the degree of intensity of the matter, in connexion with the receptivity of the skin or organism, must be taken into account. It is clear enough that the solution of these questions will always be of importance, because without it physiological, not less than practical, considerations want a solid foundation; and the results will, in many respects, continue unsatisfactory both to the profession and the public, so far as the general interests of society are involved. The intention I announced during the discussion, that I would myself investigate this subject, I immediately proceeded to carry out; and I now venture to submit the result to the judgment of my colleagues, and to closer examination, both at home and abroad."

The author states the following as the results of the investigations of able English, French, and German physiologists on the important question whether the vaccine and variolous principles are so nearly related in their reciprocal influence as to endow vaccination with the power of rendering the system proof against the action of variola.

"1. Vaccination well performed and tested with a negative result, either by repeated deep vaccination, or by inoculation with variolous matter, affords in a great majority of cases immunity for life from the effects of the variolous poison, even under epidemic conditions.

"2. Variolous fever will, if it breaks out after effectual vaccination, in general be lighter and less dangerous to life, and will produce a less characteristic varioloid exanthema. Neither of the two exanthemas affords absolute immunity for life from its own action, and consequently not reciprocally from that of

the other, in which respect vaccine will of course sooner fail as a protection against variola than *vice versâ*."

Professor Faye recommends as a test, and in persons who have shown themselves refractory, a deeper mode of vaccination than is usually adopted, either by introducing the matter on lint into an incised wound after the bleeding has ceased, or by using a broad thick lancet with a furrow on one surface, in which the matter can be taken up in greater quantity, or by injecting a drop into the subcutaneous tissue. He details some investigations on different individuals from the age of four days up to thirty years, and adds:—

"All these experiments, which have been continued, therefore seem evidently to indicate the existence of a true immunity of the system, and that the process of vaccination, if properly performed, in general renders the organism unsusceptible, probably for a tolerably long time, of a fresh ferment and genuine eruption; a conclusion which also agrees with the usual results of revaccination on young persons. With respect to local receptivity, the thighs seem to take precedence of the arms, and the latter of the chest; but this difference has of course no influence on the zymotic process and the final immunity."

Professor Faye is inclined to allow his love of science to carry him too far: he proposes to perform a personal experiment, which we trust he will on maturer consideration forego. Little can be learned from an isolated fact, and should he be the subject of an idiosyncrasy rendering him liable to a second attack of small-pox, the trial he contemplates might deprive medical science of one of its most zealous cultivators. He continues:—

"As a long time has now elapsed since we acquired our experience of the effect of the inoculation of true variola after previous deep vaccination, it will be interesting to learn, a little more accurately, whether our present mode of vaccinating and vaccination in general affords security, and to what extent the change in the system in reference to inoculation with variola renders it unsusceptible of any general or local effect from fresh inoculation.

"I was myself vaccinated in infancy; and subsequently, in my twenty-fifth year, now twenty-five years ago, I had an attack of varioloid, of which I still retain some marks. I therefore presume that I ought to be secure against inoculation with variola, at all events when I have once more tried vaccination, and it is therefore my intention, on the next outbreak of the disease here, to take an opportunity of inoculating myself to learn the result."

With reference to the opinion entertained by some, that

vaccine matter, in passing through many individuals, perhaps through many generations, must necessarily be weakened, Professor Faye holds that the fact of its being constantly elaborated in new organisms, and often emanating from individuals with increased strength, must render such a diminution of power most unlikely.

The second portion of Professor Faye's work is devoted to an examination of the facts and reasons on which the doctrine of immunity by syphilization mainly rests, and to a comparison of the state produced by that operation with the direct and reciprocal condition of immunity obtained by inoculation with variola and vaccina, with reference to a renewed action of the respective matters on the system.

The author's opinion seems to be less favourable to the adoption of syphilization as a cure than it was before he commenced his own experiments, for he draws from them the conclusion that "as certainly as individuals who are entirely free from syphilis, and those who are constitutionally syphilitic, are susceptible of new local symptoms, so certainly will syphilized persons, both those who have used mercury, and those who have not employed this medicine (on which point it is difficult to attain to any degree of certainty with respect to its earlier use in other diseases), to the best of my judgment, be susceptible of the local effect of the venereal virus, immunity in the true sense of the word is not consistent with physiology and pathology.

"Any one who entertains a doubt on this subject will be able to decide the question on individuals who are constitutionally syphilitic, or syphilized to supposed immunity and cure, or who enjoy immunity and are not cured (tertiary syphilis), whether they have used mercury or not, by dressing an ulcer with syphilitic matter for a shorter or longer time, according as the virus is present in greater or less intensity, and he will find the sore to assume a specific character, and subsequently to yield inoculable pus in large quantity. If this experiment be tried on a young person with a susceptible skin, and crossed again in other persons, the syphilitic matter will even acquire greater intensity, if before use it has been weak and not inoculable on a superficial and cursory puncture. Or fresh pus may be daily introduced into a little channel between the layers of the skin, and the same result will be attained with incontestible certainty, even if the cutaneous system possesses but little vitality, and has long been exposed to ulcerous secretion. If uncertainty still remain, the vascular network of the skin may be stimulated with other non-specific

irritants, and syphilitic matter will convert the sore into a specific secreting surface. It will in general be unnecessary to introduce matter into the areolar tissue as a test of its virulence. On the other hand, this mode, which, as has been mentioned, readily produces a great effect, might be employed as syphilization treatment in patients who have already long been inoculated without success and without cure; for in such cases, in which also no phagedena is to be apprehended, the syphilizators who, as in artificial inoculation with variola or careful vaccination, must wish for reaction in connexion with the local manifestation, seem to be able to attain their object with their treatment.

"In the large venereal hospitals the experiments described on the nature of the matter are easily instituted; and although, for my part, I was convinced before I experimented that there was no true immunity, I am now assured of it on a more certain foundation." Now the discussion shows that Professor Boeck divides immunity into different species, such as local immunity, immunity from a certain matter, temporary immunity, &c. But such division does not agree with our usual physiological notion of the word immunity. "Further," continues Professor Faye, "I should be glad that any one, either at home or abroad, should investigate the fact brought forward in evidence, that art is capable of imitating nature by the transference of syphilitic virus to the surface of the body, with a subsequent spontaneous production of new virus from the infected part. That this will also take place on the more vital parts of the head, is scarcely subject to doubt, although Ricord has not yet met primary inoculable chancre there. If, for example, the lip and mouth can be inoculated naturally between the nurse's breast and the child's mouth, and *vice versâ*, which few now doubt, it is clear enough that by a similar prolonged contact the same effect may be artificially produced. We must only bear in mind that the point of the lancet and superficial contact with the layer of skin under the epidermis does not afford any proof of immunity, or any true imitation of the absorption which takes place on repeated, intimate, and long-continued contact.

"Reasoning from such imperfect artificial experimentation is also dangerous, when it affects the decision of the question so important to society, whether secondary syphilis is inoculable; for it may lead to a false security.

"A totally different question is, whether an individual can a second time become constitutionally syphilitic, or acquire a new and independent indurated chancre, which Ricord fur-

thermore denies; as this inquiry does not touch on that of the transferability of syphilitic matter from the surface of one individual to that of another. On this point, too, syphilization seems to be isolated and inexplicable; for if the system had become really pure and free from all syphilitic taint, it could scarcely, according to our knowledge of the mode of operation of the syphilitic virus, be safe against fresh action, but must, on the contrary, be assumed to be again susceptible."

Among the experiments of Dr. Faye, by which he seems to prove that the matter may increase in intensity by passing alternately from one individual to another,—a conclusion to which the syphilizators appear also to have come,—there is one we cannot avoid alluding to, because it is very interesting, in reference to the question of inoculability or non-inoculability of the syphilitic virus. These experiments relate to a person having a true indurated chancre on the genitals, which yielded matter non-inoculable by the ordinary mode (though it was tried sixty times on eight different individuals), as is usually the case when the chancre becomes indurated, and the system contaminated; still, this matter, after being inserted on threads of lint into the skin of the arm of the same person, produced a characteristic chancre, yielding a matter easily inoculable on the same individual, and on other persons for a long series. This experiment Dr. Faye thinks very remarkable, because it seems clearly to prove that pus containing the syphilitic virus so weak that it may be thought harmless according to the ordinary mode of experimentation, may still retain its natural virulence, which may be strengthened by more careful inoculation. These opinions seem also to be in concurrence with general experience, as is well shown by Dr. Porter in his Essays on Syphilis in this Journal, and are illustrated by the history of British troops acquiring the disease in other countries and climates; and Dr. Faye quotes Professor Porter in support of his views. Dr. Faye is inclined, furthermore, to infer from these experiments that it might be possible to take the product from secreting secondary affections, and to make it, by a series of careful successive inoculations, so intense, that it at last might be continued by simple inoculation,—thus proving that secondary affections, as Wallace of Dublin, Waller in Prague, and Renecker in Würzburg, have shown, are not only transmissible, but that the syphilitic poison is probably one and the same, and differs only with regard to the intensity and individual constitutions. If this be true, it would most satisfactorily simplify our at present confused ideas about the different primary (soft and indurated), and secondary and ter-

tiary affections, &c. From all that has been brought forward it seems clear that the essential difference between the effects of the virus of vaccina or variola, and syphilis, is this, that in the first two the virus, as a ferment, is immediately absorbed, producing a blood disease, of which the eruption is only a localization or sign; but, on the other hand, that the syphilitic virus is from the first a local irritant poison, the effect of which may be destroyed in the first four or five days without any bad effects on the system; and if afterwards absorbed, it causes a chronic constitutional poisoned state of the organism.

With regard to the mode of action of the curative chancre inoculation, as Professor Faye calls it, he and Dr. Steffens believe,—while he acknowledges that many apparent cures have been obtained, and that relapses in non-mercurialized persons have been comparatively more rare than after mercurial treatment in the Syphilitic Hospital of Norway,—that cure takes place by suppurative depuration of the system from the many hundred ulcers produced in the course of the syphilization. Such a mode of action, Professor Faye thinks, is analogous to what we know of the depuration of the organism under suppurative derivation caused by furuncles and other suppurations, combined with the effects of a good diet. Medical men, in ancient times, were well aware that the production of artificial ulcers greatly assisted the healing of inveterate ulcers; and every syphilologist knows well that profusely suppurative buboes preserve the organism from general infection. At all events, the author thinks it quite unphysiological to entertain the idea of any process like the zymosis of acute diseases in such a chronic disease as syphilis, because an absorption of the virus from the genitals usually poisons the organism for the entire of life; and not only does not wear itself out in the same individual, but infects the next generation too; and it would be quite irrational and contradictory to suppose that a repetition of a series of ulcers on the skin could produce a healthy circulation of the same poison in the organism, as the syphilizators suppose.

We have thought it better to give Professor Faye's opinion on the foregoing subject in his own words. Our readers have now before them the views of two of the most distinguished members of the Scandinavian medical school, who have fully investigated the question, and they will thus be enabled to draw their own inferences as to its merits.

1. *Kort öfversigt af epidemiska sjukdomar i Sverige under år* 1855. Af Dr. A. Timoleon Wistrand. (Aftryck utur Hygiea.)

*A brief Review of the Diseases Epidemic in Sweden during the year* 1855. By Dr. A. Timoleon Wistrand. (Reprinted from the Hygiea.) Pp. 23.

2. *Infusorier, såsom Intestinaldjur hos Menniskan.* Af Prof. Dr. P. H. Malmsten. (Med 1 planche.) Stockholm: 1857. P. A. Norstedt och Söner.

*On the Occurrence of Infusoria as Intestinal Animalcules in Man.* By Professor P. H. Malmsten. 8vo, pp. 13. (With a Plate.)

3. *Undersöknings-metoder och reaktions-prof som begagnas vid det Kemiskt-Patologiska Laboratorium i Wien, medd.* Af Dr. N. P. Hamberg. (Aftryck utur Hygiea.)

*On the Modes of Investigation, and on the Tests employed in the Chemico-Pathological Laboratory in Vienna.* Communicated by Dr. N. P. Hamberg. (Reprinted from the Hygiea.) Pp. 19.

4. *Om Komjölk och dess Grädda.* Af Dr. N. P. Hamberg. Aftryck ur Arrhenii Tidskrift för Landtmanna- och Kommunal-Ekonomien för 1856, 4de häftet. Upsala, Wahlström och C. 1856.

*On Cow's Milk and its Cream.* By Dr. N. P. Hamberg. Reprinted from the Fourth Number for 1856 of Arrhenius' Journal of Agricultural and Social Economy. Pp. 14.

The industry of our Swedish brethren again compels us to class together in a single article a rather heterogeneous collection of essays. We are, however, always most happy to receive the valuable and varied contributions of the profession in Scandinavia to medicine and its collateral sciences.

1. Dr. Wistrand states that in addition to the various inflammatory, catarrhal, and rheumatic fevers occurring according to the season of the year, and which were more or less general in almost every part of the kingdom, the principal epidemics in 1855 were small-pox, scarlatina, and measles, with the usual sequelæ of these exanthemata, hooping-cough and mumps; also gastric and nervous fevers, and dysentery, cholera, and ague, diarrhœa and croup. Boils and whitlows, too,

were in many places more than usually prevalent during the year.

The characters of the seasons were, in opposition to those of the four years immediately preceding, a cold and long winter, a late spring, with little rain, hail, or snow; an equable, warm, and dry summer; and, after a mild autumn, an early return of the cold of winter; in consequence of the trifling fall of rain, the water-level in the several rivers and lakes was unusually low; the harvest, which suffered from the cold of the spring and the drought of summer, yielded a very moderate produce, the quality being, however, in general particularly good.

Small-pox, which had gradually increased from 1847 until it became an epidemic of thousands of cases over all Sweden, attaining its culminating point in 1851, and afterwards diminishing year by year, seems to have closed its epidemic career in 1855.

Scarlatina was less prevalent than in the years immediately preceding. It was in general of a mild character, and except in a few localities was unattended with the swelling of the throat, cerebral congestion, or dropsical sequelæ, which frequently accompanied the epidemic during the previous years.

Measles were very prevalent in 1855, but were in general of mild character.

Croup occurred only sporadically.

Cholera appeared in 1855 in many more localities than during the preceding year, but for the most part the cases were few in each, so that the total numbers of those attacked and of deaths were not so large as might have been expected. The disease prevailed chiefly in the lowlands, or those situations which were less than 300 feet above the level of the sea. The epidemic lasted for about seven months, from the 28th of July, 1855, to the 7th of March, 1856, which was longer than the duration of any prevous epidemic of the disease[a]. The total number of those attacked was 4066, being 1·11 in every thousand of the population; the mortality was 56·3 per cent. In the towns the proportion attacked was 8·6 in 1000, and the mortality was 56·8 per cent., while in the country only 0·2 per thousand sickened, but the mortality was so high as 59·5 of those attacked. The sexes were very equally divided, for of 1829 fatal cases of which the sex is stated, 914 were men, and 915 women.

[a] A reference to Dr. Berg's work, formerly noticed in this Journal, shows that the great epidemics of 1834 and 1850 each lasted for about five months.—Rev.

Dysentery was epidemic in some localities, and was not confined to those of less elevation than 300 feet; on the contrary, it showed itself even so high as 800 feet above the level of the sea. The mortality was very great, averaging in three districts 38·1 per cent. of those attacked. The disease appeared to be milder in the towns than in the country parts.

Ague was indisputably the most prevalent disease of the year, and occurred in all parts of the kingdom much more extensively than during the preceding twelve months.

We have culled the points in Dr. Wistrand's very valuable Report which we thought most likely to interest the profession at large. The author enters, in addition, into many details of great importance to his fellow-countryman.

2. The intestinal animalcules described by Professor Malmsten were first observed in the case of Henrik B., aged 38, a boatswain, who had enjoyed good health until he got an attack of cholera two years previously to his admission into hospital on the 22nd of March, 1856. His recovery from the attack was tedious, and he had since suffered much from indigestion, and a lienteric and dysenteric state of the bowels. On examining the *recent* discharges, the parasites in question were found in great numbers. They were roundly ovate, somewhat pointed anteriorly, and were about one-tenth of a millimetre in length. Their shape, however, altered somewhat under different circumstances. They performed rapid rotary movements in the mucus. Externally they were densely studded with ciliæ; anteriorly, somewhat to the side of the point, the mouth was observed furnished with longer ciliæ; posteriorly, inclining rather to the abdominal surface, was the anal opening, sometimes drawn in, sometimes prominent. Internally were observed the so-called nucleus; two contractile vesicles, one larger, more posteriorly near the anal opening, the other smaller, more in the middle, and towards the dorsal surface; and portions of food, consisting for the most part of more or less digested starch cells and fat globules. These various parts and appearances are beautifully represented in a well-executed plate, containing six figures, from drawings by Professor Sv. Lovén. The author proposes to call the animalcule *Paramecium coli*. This case was "witnessed by Professors A. Retzius, Huss, and von Düben, of Stockholm; Professor C. Boeck and Dr. Vogt, of Christiania; and Dr. Neligan, of Dublin."

The second case in which the paramecium coli was observed was that of Christina Lindström, aged 35, ten years

married, and mother of three children. She stated that, with the exception of ague twelve years previously, which lasted for seven weeks, and of one day's cholerine in the summer of 1853, she enjoyed good health and strength until September, 1854, when, after lifting a tub, she began to feel a painful retraction and heat in the left side under the angle of the ribs. The pain was fixed, and was increased by pressure or effort, but diminished when she lay still. Lienteric diarrhœa soon came on, after which the pain in the side became somewhat less. The diarrhœa continued occasionally, and in various degrees, until the 13th of May, 1855, when she died. The discharges were latterly examined microscopically, and the infusoria above described were observed in very great numbers, mixed with pus, and exhibiting a great degree of motion. On post-mortem examination it was found that the animalcules were confined to the portion of the intestinal tube situated below the valve of the colon, and that they were most numerous in the mucus taken from the parts of the great intestine, where the mucous membrane was sound. Other portions of this membrane were in a state of gangrenous ulceration.

Ehrenberg, observes the author, in his celebrated work, "Die Infusions Thierchen als volkommene Organismen," writes that, "according to Leuwenhoek three species of infusoria occur in the intestinal mucus of man, which I have often sought in vain." Professor Malmsten states that he himself has been for many years engaged in the microscopic examination of the fæces in searching for the ova of intestinal worms, and that he was therefore glad to have the first case verified by several persons. He suggests that the existence of these infusoria may hereafter be found to be connected with the diseased state called lientery, for their presence in such enormous numbers would not only increase the intestinal secretion, but also the peristaltic motion of the bowels. He considers it most probable that these animalcules are analogous to other entozoa occurring in man, and that they have often escaped observation in consequence of the rapidity with which they perish when expelled from the bowel. This point should be borne in mind in future investigations.

As to the treatment, or rather the expulsion, of these infusoria, it is evident that as they are confined to the large intestine, enemata must be the most effectual means of extirpating them. The author promises, however, to institute experiments on this point on his first patient, who will probably soon return to the hospital.

3. The third work on our list need not detain us long; it

is a Swedish version of the account originally published in the Norwegian language by Dr. Ludvig Dahl (of the English translation of which by Dr. Moore an ample notice has been given in our twentieth volume) of the mode of investigation taught by Professor Florian Heller in the Chemico-pathological Laboratory at Vienna.

4. Dr. Hamberg states the specific gravity of cream when perfectly separated from the milk to be so low as, in one instance, 1·00487; in another, 1·00548. That the specific gravity is usually stated as much higher depends, according to him, on the imperfect separation of the milk from the specimens examined. From 100 parts of cream taken from milk of specific gravity 1·0309, he obtained 29·455 parts of butter. As the latter is practically the most important constituent of the cream, the author appends some observations in reference to it. He found the amount of butter obtained from cream to be greatly influenced by the nature of the food. Thus, in a specimen of cream obtained from an estate where the pasturage was particularly rich, the per-centage of butter was so high as 34·75. In a series of experiments on cream taken from grass-fed cows in the neighbourhood of Stockholm, Dr. Hamberg found the amount of butter to vary from 23 to 29 per cent., while during stall-feeding it fell to 20 or 21 parts in the 100.

The temperature at which the cream is separated has a great effect upon its amount and upon its per-centage of butter. A portion of milk was divided into three parts, one of which was allowed to stand for twelve hours at a temperature of 55° F., another at 64°, and the third at 95°. The lowest temperature afforded the largest quantity of cream, but it was thinner, and contained less butter than the other specimens. The highest temperature yielded the thickest cream, but the latter was rather sour; the amount of solid constituents was greater in it than in either of the other samples, but this was not owing to an increase of the butter, but of the casein. The greatest amount of butter was obtained at the medium temperature. The hay or grass from highland meadows or pastures produces a better and more aromatic milk than that from marshy ground or lowlands.

Of the essays we have now reviewed, Dr. Wistrand's is a contribution to the study of epidemic and endemic disease; a field of observation, the importance of cultivating which we have before endeavoured to impress upon our readers. Professor Malmsten's observations on the paramœcium coli are ex-

tremely interesting, and are likely to prove of great practical importance, and to them we would especially call the attention of the profession. Dr. Hamberg's investigations are valuable not only in an economic point of view, but as contributing to our knowledge of the composition and properties of the typical nutriment prepared for us, as well as for other mammalia, by nature.

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*Observations on the Report of the Sanitary Commissioners in the Crimea during the years* 1855 *and* 1856. By Sir John Hall, M.D., K.C.B.; Inspector-General of Hospitals. London: Clowes and Co. 1857. 8vo, pp. 64.

The pamphlet before us is one that we cannot but look upon with regret, inasmuch as it has been *forced* upon its author by the acts of a professional brother.

Dr. Sutherland has endeavoured in the Report upon which Sir John Hall founds his "Observations" to take credit to himself for the introduction into the British hospitals and camp of all the sanitary arrangements (but which, in reality he found in operation), and so successfully did he accomplish his end, that Lord Palmerston in the House of Commons declared "that the excellent condition of the military hospitals in the Crimea was attributable to the advice and suggestions of Dr. Sutherland, and of the Sanitary Commissioners."

It is under these circumstances that Sir John Hall (in defence of his own character, and the characters of his brother officers in the Crimea) feels called upon to give the most unqualified denial to the statement of the Prime Minister, and to show, by the quotation of official documents, dates, and facts, that his Lordship has been entirely misled; and that, so far from the comfort and health experienced, towards the middle and latter end of the campaign, by our troops, depending upon the acts of Dr. Sutherland and his colleagues, "that neither he nor any other member of the Sanitary Commission had anything whatever to do either with the organization or management of the military hospitals in the Crimea; and that, so far as their suggestions on sanitary matters in the Crimea are concerned, it was admitted by themselves that almost everything they could think of was either in actual operation, or had been recommended by the Medical Department of the army before their arrival." It is therefore hard, it is unjust, and it is ungenerous, that any man should so write an account of his own acts and deeds as to lead those reading to suppose, not only

that he himself is what he is not, but also to prejudice the characters of others. Dr. Sutherland has done this: he has worded his "Report" in language so equivocal as to have misled even Lord Palmerston himself, and to have detracted from those to whom was justly due the merit which his Lordship was willing to award. Dr. Sutherland was well aware, when sitting down to pen the "Report" in question, that, arriving in the East, he did but *continue* (on an enlarged scale by means of the staff placed at his disposal) measures which he found in operation. He knew that months before "the position of the camps, the removal of nuisances," "the burial of the dead," "the covering in of deceased animals," "the formation of privies," "the overcrowding of wards and huts," "the ventilation of hospitals," "the state of Balaklava, &c. &c.,"—these and all the other matters of which he treats had been the subjects of direct and special correspondence, and the care of those under whose charge and province they legitimately came, but whose agency Dr. Sutherland found it convenient to ignore.

What a very different opinion in public estimation would Dr. Sutherland have held, had he, instead of recording the number of "barrowfuls of refuse removed," of "hand-carts of filth and rubbish cleared away;" "the numbers of men engaged in sweeping" this day, and the fact of "a dead horse lying near the hospital being buried" upon that,—instead of embodying his opinions in these words, namely,—"that as scurvy, and the forms of disease connected with it, almost disappeared from the army under the influence of improved diet, clothing, &c. &c., so in like manner had zymotic diseases (the destructive effects of which mainly depend on breathing a humid, tainted atmosphere) *declined on the carrying out of suitable sanitary works and measures*"[a], thereby implying that "these sanitary" works were the result of the Sanitary Commission;—had he, on the contrary, openly said, "My Lord, we found nothing to suggest that had not been suggested before, but this, namely, that the letter of instructions which we had the honour to receive from you, dated February 19, 1855, *empowering us to act*, and not directing us "to rest content with issuing an order, but to see instantly, by ourselves or by our agents, to the commencement of the work, and to its superintendence, day by day, until finished;"—had he recommended that this letter should be handed over to the head of the Military Medical Command, and be made the standing regulations of the service:—then the army and the

[a] The italics are our own.

nation would have for ever after been under obligations to him.

Had Dr. Sutherland, after seeing the facility with which *he* could get carried out any plan or suggestion of value, and knowing that it was the want of this facility of action which had "alone" impeded the progress of sanitary measures previously, written to the Minister for War and said so, he would have acquired for himself an imperishable fame; for he would have been the recorded source and origin of those modifications and improvements in our military medical regime which hereafter *must take place*. This, however, was not the course that Dr. Sutherland adopted. He took another line, and tried to show that the improved health of the army was the result of his own superior labours. Left alone, such an explanation might do well enough, but, brought to the test of analysis, and subjected to the cross-examination under which Sir John Hall has placed it, it gives a very different result. It exposes the fact of a most vicious system existing in the Medical Department of the army, whereby the head of the medical staff, whilst charged with the preservation of the health of the force, and responsible for it, has really no power whatever to carry his plans into effect; whilst it exhibits Dr. Sutherland in the unenviable light of suppressing the fact of all the recommendations which he offers as his own having been already made by Sir John Hall, and stamps him as guilty of as complete piracy as any act of literary or scientific plagiarism.

It is a painful subject to dwell on, and we would fain close our pages to remarks on Dr. Sutherland's Report, which cannot be made in any other form than that of condemnation; and we would pass from the individual to the general question of sanitary measures in connexion with our armies and fleets. We would say that this much has been gained from the Commission, namely, an acknowledgment by the executive of the value of hygiene, and of the necessity hereafter of attempting not only the cure, but also the prevention of disease. This, however, is not to be attempted to be effected through the agency of an extemporized civil sanitary commission, formed of men who never saw a tent, or a soldier on service, before, but by the allocation of sufficient powers to those who are the "properly constituted authorities,"—the officers of the Medical Department. A British army in the field (at the antipodes or elsewhere) is not in future to be left dependent for its efficiency and health upon the despatch from England of any sanitary commission, with "inspectors of nuisances," from Liverpool, gentlemen who, like Messrs. Freeny and Aynsley, as stated

in the Report[a], soon find that their services are "urgently required in Liverpool," so "give notice of the fact to Dr. Sutherland," "who, in consequence of the notice of leaving the Crimea given by the inspectors, makes application to the Commander of the Forces for two other competent persons to succeed them in their work." What sum these gentlemen received for their services is not stated in the Report, but we hope they were well paid, and we trust that they enjoyed their excursion and were not the worse for their exertions. As Englishmen, however, more deeply interested in the well-being of our army than the welfare of Messrs. Freeny and Co., we sincerely trust that such a farce may never be enacted again; that our army may be at once made efficient in all its parts, and not left in a position to require "Commissioners" to fulfil those duties which are incidental to war, and which the soldier, and not the civilian, is the legitimate party to discharge.

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*Elements of Pathological Anatomy.* By SAMUEL D. GROSS, M. D., Professor of Surgery in the Jefferson Medical College, Philadelphia; and formerly Professor of Pathological Anatomy in the Medical Department of the Cincinnati College. Third Edition. Philadelphia: Blanchard and Lea. 1857. 8vo, pp. 770.

THE study of pathological anatomy, at no very late period so thoroughly disregarded, has, within the last century, engaged the talents and time of many very eminent individuals, who appear to have foreseen intuitively the wonderful influence which an intimate knowledge of its varied details must eventually exercise on disease in general, but more especially on the therapeutic agency that is essential to be employed for the purpose of combating successfully those insidious but progressive ravages that must terminate fatally, unless controlled or checked by such remedial measures as seem to be most properly calculated to arrest their destructive tendency. It is, however, by no means difficult to account for the almost total neglect of this most important branch of medical science, when we are induced calmly to reflect on the numerous impediments that stood in the way of its proper study: the principal of these being the prejudice of mankind, which, for a lengthened period, acted as an insurmountable barrier to every attempt at investigations of this nature, recoiling with, perhaps, a justi-

[a] Pages 144 and 146.

fiable horror from what they, in their unconscious ignorance, conceived to be a violation of the sanctity of the dead, and misunderstanding, or at least affecting to do so, the pure and unselfish motives that could at such a moment prefer a request of this nature; and too often, and without any substantial grounds, was attributed to feelings of heartless and idle curiosity, the yearning anxiety that was displayed for the yet further information that was only to be acquired by an actual cadaveric examination. Every one, at some period of his life, must have witnessed the pious zeal with which the precincts of a country graveyard that contained the remains of some much-loved relative has been watched by the survivors, to guard the inanimate form from the desecrating touch of a sacrilegious hand,—this vigilance being considered absolutely necessary from the fact of its having become bruited abroad, that a mind more inquisitive than ordinary, under circumstances of this nature, had, perhaps, hinted a desire to make himself acquainted with the cause, more than usually complicated or obscure, that had produced a result so totally unexpected. This wish for an autopsy, whether simply implied, or openly expressed, had been indignantly refused; and hence the necessity of those nightly vigils to deter the disciple of progressive science from attempting by undue means to render himself cognisant of that secret, which had thus become impenetrably shrouded beneath the cold earth. For ages popular prejudices, and grosser ignorance, have formed a persistent stumbling-block in the path of those whose mission would seem to be the dissipation of error, and the propagation of opinions which could at least be defended on tenable grounds; and the history of surgery and medicine forms by no means the solitary example of what may be effected by their baneful influence, as far as positive retardation or actual obstruction is concerned. To destroy, or even partially eradicate, existing fallacies, that have acquired a continuous strength by an uncontradicted growth of centuries,—to induce the great mass of mankind to divest their minds of views, however narrow and illiberal they may be shown to be,—to impugn long received doctrines which have acquired a species of sanctity from antiquity, and a certain amount of foundation from having existed so long unquestioned,—is an arduous task indeed, but yet one that the impassioned votary of science must expect to encounter at every step, and as surely to overcome gradually, by a proper display of patient labour and perseverance; but difficult, beyond expression, is the attempt to strip the human mind of those emotions of superstitious awe, which are so natural to arise at the mere proposal of submitting to the hand of

a stranger, for the purposes of scientific investigation, all that remains of some beloved relative or friend, to whom we were bound during life by the closest ties of personal attachment. The philosopher, alive only to the result that is to be obtained, may be inclined to sneer at this natural repugnance, and term it weakness,—such it certainly may be in a modified sense, but still it is a failing in our nature, which we would be sorry to see altogether obliterated.

It has, however, fallen to our lot to witness a more enlightened system of education, which has, in a very great degree, succeeded, if not in completely expunging, at least in materially smoothing away, many of those obstacles that once so seriously affected our advance in the knowledge of particular diseases. Moreover, interested considerations have more or less weight, for the head of a large family, who has observed one or two of its juvenile members suddenly prostrated by an affection identically similar in its nature, will rarely refuse a post-mortem examination, if the request is delicately made, and preferred by an individual whose motives are above every taint of suspicion. The peculiarities of the case should, however, be always such as apparently to justify his desire, for it cannot be too strictly borne in mind, that nothing can be positively more unnatural and revolting, than that morbid yearning after cadaveric investigation, which, utterly regardless of the feelings of others, is anxious only to gratify his own pride and self-love, by publicly demonstrating, no matter how patent the fact may be, the accuracy of the diagnosis which he had formed during life. Such conduct as this cannot be too severely reprehended, as not only tending to entail an additional amount of misery on parties connected with the deceased, but as acting positively injuriously in another point of view,—as we ourselves are cognisant of more than one instance where permission to hold an examination was steadfastly declined, owing to the circumstances just detailed.

While, however, freely conceding, that the revolution that has taken place in those too long cherished sentiments of mankind has opened, in a great measure, a splendid field for pathological inquiry; and while, also, as readily admitting that our numerous hospitals and infirmaries present an almost inexhaustible mine for the same purpose,—truth compels us to be equally candid in stating, that with all those unquestionable facilities so invitingly available, an utter neglect, or with some few and ill-directed exceptions to render that neglect still more glaringly striking, has hitherto been suffered to exist in this particular branch of medical literature, in this country at least.

Now, at the first casual glance, it would appear that this anomalous condition of things could only be accounted for on the following simple grounds,—either that the individuals appointed to those institutions are perfectly incompetent to discharge the duties which they had undertaken to perform, or were too indolent to expend the amount of labour essential for their proper fulfilment. A little reflection will, however, immediately convince us, that neither of these two reasons will offer the true solution of the difficulty, as the one is most clearly and unequivocally disproved by the high positions which the majority of them have succeeded in most justly obtaining in public estimation; while the other is as distinctly shown to be without foundation, by that untiring and unremitting display of physical exertion that is daily and hourly brought under our observation, in the general competition for private practice. What, then, may be the true explanation of the case? Simply this, that all our public medical officers are completely overworked, and, while clinging with a puerile pertinacity to their several appointments, finding it impossible to attend properly to their public and private duties at the same time, they very naturally slur over the former, not as being less important, or of inferior utility, but really because they are of less advantage to themselves individually, in an emolumental point of view, than the latter. Throwing aside altogether those charges of nepotism and undue favouritism which must occasionally occur in all phases of life, as the world is at present constituted, we are unshaken in our opinion, that fifty-five years of age should be the extreme limit at which a man should be allowed to hold one of those appointments, as, after that period—not that we exactly succumb to the opinions of Dr. Johnson, who states "that mercenary considerations then begin to preponderate over and extinguish the purer aspirations of ambition," —we will go so far as to assert, that with the failing energies of manhood, with the anxieties attendant on an extensive practice, and with the natural solicitude to secure a future provision for perhaps a numerous family, we must, of course, expect to find a corresponding diminution in that zeal and enthusiasm which once experienced the noblest of all pleasures from the self-imposed task of labouring to advance the scientific portion of that profession to which he was so ardently attached in youth. It would be a task of more than ordinary difficulty to endeavour to suggest even a partial remedy for this unfortunate state of affairs, for, whether rightly or wrongly, the notion appears to be very generally prevalent, that to surrender voluntarily one of those public positions is tacitly to acknowledge a

sense of declining ability, either bodily or mental; and under the influence of this unfounded idea the evil day will be procrastinated, to terminate ultimately in one of two ways,—either in his totally absenting himself from the institution to which he is attached,—the wisest course to be pursued, by-the-by, under all the circumstances,—or in presenting himself, on very special occasions, on his former theatre of action, to quaver, like a second Braham, his last note, to gull the thoughtless and unreflecting, but to the scarcely concealed chagrin and dismay of his real friends, who are compelled to be the unwilling witnesses of a weakness that can thus induce him to jeopardize the high character he had so deservedly attained, when manhood was in its prime, and the hand obeyed with undeviating precision the volitional impulse of the master mind.

Waiving, therefore, any further allusion to those institutions, jealously guarded as they are at present from all extrinsic intrusion, no matter how strong the claims may be in favour of a breach of those preposterous rules by which they have been hitherto regulated,—let us, for a moment, direct our attention to the manner in which those matters are conducted under the auspices of Government management, when an opportunity presents itself for prosecuting inquiries of this nature. The Crimean campaign, with its overwhelming host of disasters, is still fresh in the memory of every one. Our troops—incessantly exposed to the awful vicissitudes of that terrible climate, with insufficient clothing, and suffering from a deficiency of the commonest necessaries of life, with little food, which was, generally speaking, of bad quality, and improperly prepared; with their energies completely overtasked, and their physical powers exhausted by continual watching, and the harassing assaults of an enemy that was ever on the alert—succumbed at last to the trials to which they were subjected, and a slow and insidious form of disease broke out amongst them, a result that was naturally to be expected, the only marvel being that they had withstood the formidable affection so long. That there were those on the spot fully adequate to the task of observing, and describing with the most perfect accuracy the several phenomena and symptoms as they successively made their appearance, has been now fully confirmed by what has, at various times, appeared in the pages of the Medical Times and Gazette; and yet, strange to say, all and every one of those men so opportunely present were recklessly and insultingly passed by; and, at an enormous expenditure to the nation, a Pathological Commission was actually instituted and really sent out, to arrive just at the moment when their services were com-

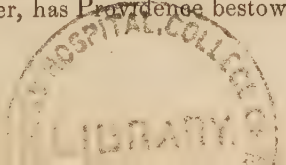
paratively worthless; for the disease which had, up to this time, been ruthlessly decimating the ranks of our troops, had abated in its virulence so much so, that, if general rumour may be credited, the laboured Report of this celebrated Pathological Visitation, strictly speaking, does not touch at all upon that particular affection which it was specially appointed to inquire into. Still it must be a source of the most unalloyed satisfaction to consider that, in return for that costly outlay so lavishly incurred, we enjoyed at least the satisfaction of receiving within the precincts of our military store-rooms some hogsheads of morbid human remains, so exquisitely sodden in spirit that it would perplex the acumen of the chief pathologist himself to distinguish a single one of them without the aid of the mysterious label and its carefully inscribed explanatory hieroglyphics. And this, according to the decision of the learned in such matters, we are compelled to pronounce the very essence of the manner in which a pathological inquisition should be conducted.

In alluding to a circumstance so notorious to every one, we sincerely trust that our remarks will be taken in the spirit in which they are intended; for it is far indeed from our purpose to desire to insinuate even the shadow of a doubt on the acknowledged and perfect competency of the gentlemen constituting the Commission to execute to its fullest extent the proposed object, did the opportunity of doing so fairly present itself. With some of them we can boast the pleasure of a personal acquaintance; and can only sincerely express our regret that from the extent of their acquirements a more proper field was unfortunately wanting for their complete and favourable exhibition. It will be seen at once that the foregoing has simply been cited to show that the conduct of our truly wise Government in its *effete* senility forms an admirable counterpart to the system acted on in the majority of our metropolitan hospitals, both with the amplest opportunities, absolutely inviting inquiry, yet both equally neglecting them or throwing them aside; the one actuated by the very spirit of ignorance on those subjects; the other influenced by motives widely different, but productive of precisely similar results.

It is really astonishing to find the lamentable amount of ignorance that so generally prevails, as to what ought to be the characteristic traits and several duties of the individual who aspires to fill the position of a pathologist with credit to himself and a proportionate degree of benefit to society at large. The numerous pretenders to the most useful art have, by the methods which they have pursued, succeeded in in-

vesting it with a species of disrepute, which it must take years of an opposite conduct to eradicate; and even under the most favourable circumstances we greatly fear if any length of time will ever thoroughly disassociate the objects of the really scientific inquirer from those of his grosser rival, gloating over his detestable trade, the rough hewer and coarser mutilator of the inanimate human form. The finished pathologist ought to possess a most accurate knowledge of the appearance presented by each and all of the several textures of the body in a healthy state, being studious to avoid confounding with an abnormal condition any slight deviation from the general standard, unless that variation is clearly traceable to the disease under immediate consideration. His knowledge of anatomy should be most intimate, and his skill in the manipulation of the knife such as to preserve, in as natural a state as possible, the various parts desirable to be preserved for a nicer and more minute examination. To meet the exigencies of the present day, a proficiency in the powers of the microscope is of paramount importance, whilst a certain familiarity with organic chemistry must be considered equally essential. If we add to this a thorough and complete acquaintance with all the great leading elements of medicine and surgery, we shall possess, with some limitations, a species of foundation on which the science of pathology may be safely conducted. Still, however, this will be by no means sufficient, for there must yet be taken into account the mind—the grand storehouse capable of receiving the whole or an abstract part; quick in the gift of analysis; equally prompt in the power of combination, or, as the occasion may require, prepared to brood for hours over a diffiulty, till its solution, like a meteor, will flash vividly across the brain, converting what a moment before appeared to be enshrouded in impenetrable obscurity into all that can be considered clear and intelligible. Moreover, the pathologist should be the closest of all observers, minutely watching each symptom as it arises, a careful note-taker, and trusting as little as possible to the unaided efforts of memory; in short, he should be prepared at all times to avail himself of every opportunity to record the symptoms of that disease, the true nature of which will only be fully revealed on the expected cadaveric examination; for herein alone consists the undoubted excellence of pathology, that it teaches us from the experience of the past what may be really useful and advantageous when emergencies of a similar nature will suddenly start up and embarrass our path in the course of our professional career.

Not upon all, however, has Providence bestowed that com-



bination of attributes calculated to constitute the character we are so anxious to depict; and strong doubts may be reasonably entertained whether the best defined course of study, with the severest mental toil, can ever succeed in moulding an individual naturally deficient in the more essential of those qualifications, into even a respectable resemblance of the real picture. An innate principle can never be effectually imitated by art; and such being the case, the public voice of the profession should be loudly raised against that arrogant class of shallow pretenders who, hot from the very leading-strings of elementary education, and enjoying, perhaps, but a questionable title to the position which they occupy themselves, profess to become the instructors of others in certain arduous and abstruse sciences, of which, at the best, their own conception is most shadowy and imperfect in its nature. They should be taught, in a language too clear and distinct to be misunderstood, that the limited amount of their own acquirements must not be regarded as a fair and impartial gauge by which to measure and estimate the extent of the information of others; and that, however high an arrogant spirit of presumption may elevate them in their own judgment, they must most assuredly sink to their proper level in the eyes of a discerning age, too far advanced in the great principles of real knowledge to tolerate with impunity such contemptible exhibitions of puerile vanity.

The Treatise on Pathological Anatomy at present before us, the work of Dr. Gross of Philadelphia, ought, if anything could, to read a salutary lesson to those embarking in the same pursuit, with talents immeasurably inferior, and with powers of induction that can bear no rational comparison with those that we will find scattered in almost every page of the work under consideration. With a laudable modesty, however, that has a powerful tendency to impress us with an involuntary prejudice in its favour, the author has conferred upon it the unassuming title of "Elementary," though we are fully convinced that we are amply borne out in the justice of our assertion when we state, that no candid or impartial mind can arise from its perusal without conscientiously feeling that a designation of graver import might have been fairly bestowed upon it without in the slightest degree overstepping the limits of a wholesome moderation. Experience has fully established one fact, that the popular voice, if only left to itself, without any undue dictation being called into play, will very rarely, indeed, form an erroneous estimate of the intrinsic merits of a publication that has been submitted to its judgment; and when, therefore, a glance at the title-page announces the in-

contestible fact that a third edition of the volume before us has already been demanded, it speaks more plainly and strongly in favour of its actual value than any specious arguments that we could by any possibility adduce in support of the same fact.

The primary chapters of the work have been devoted by the author to the consideration of the process of inflammation, with the several modes in which it may terminate; taking up and examining, in the most clear and systematic order, all of its results as they successively arise, and explaining each, as it appears to require it, by illustrations, either original or borrowed from sources on which the most implicit reliance may be placed. It would, however, answer no useful or practical purpose to investigate this subject too closely, as all that can possibly be said or written about it has already repeatedly appeared in various other publications, professedly with the same object. To produce a careful digest of all the several phenomena that have hitherto been detailed by different observers, and to endeavour to reconcile any glaring discrepancy that may seem to exist between them, is all that a writer in the present day can be expected to do, and the only merit which he ought to lay claim to is that of aiming to award the strictest and most impartial justice to the claims and labours of every inquirer. This latter task Dr. Gross has certainly performed in the most unexceptable manner, candidly recording each theory as it appears worthy of notice, but, at the same time, permitting to himself the freest latitude to assent to, or dispute, the premises thus laid down. Take, for example, the mode in which he quietly disposes of the untenable doctrine of fevers:—

"If we regard the four phenomena—discoloration, heat, pain, and swelling—referred to above, as being essential to the process, it will be at once perceived that there can be but few inflammations; and we shall therefore be obliged, in describing diseases, to invoke other names, such as irritation and fever, a blind adherence to which has unfortunately tended too much to retard the progress of pathological science. Boerhave enumerated one hundred and fifty varieties of fever; had he enumerated one thousand more, he would have been much nearer to the truth, for he might then have specified nearly every form of inflammation, whether occurring in the external parts of the body or in the interior organs. The word 'fever' is a conventional one, and is employed to designate, not the nature or seat of a disease, but simply the phenomena which it manifests. So also with the term irritation. Mr. Travers and others have written extensive treatises on this subject, but have they pointed out anything concerning the essential character of this disease? Have they told us anything of the peculiar condition of the

nerves and vascular systems which accompanies it? So far as I am acquainted with their labours, they have not; and yet men continue to talk about irritation, with its numerous varieties, as if they had the most perfect knowledge of its nature, seat, causes, and symptoms. A course such as this cannot but have a most dangerous tendency in practice; for what one physician describes as a fever, another will consider simply as an irritation, a third as an inflammation, and in this way no principles can ever be introduced as standards of treatment. The practice of medicine must continue to ebb and to flow with every tide of professional opinion.

"The time, however, cannot be far off when the term fever must be entirely discarded from our books, and diseases named according to the tissues they implicate; then, and not till then, can it be expected that the laws of deranged action will be properly interpreted or fully comprehended. All diseases, I feel confident, will ultimately be found to have a local origin and habitation; and if this opinion shall ever be proved to be true, the whole class of febrile maladies, with its hundred varieties and subdivisions, will cease to have a place in our medical treatises. The artificial nosology of Sauvages, of Hoffman, Cullen, Hosack, and a host of minor worthies, has had its day; its authority is at an end; its sceptre is departed; philosophy has usurped its place, and derides its aid. For the great changes that have been effected, and which are still going forward in relation to the doctrine of morbid action, we are mainly indebted to a profound cultivation of pathological anatomy, which, since the time of Bichat, a period of less than sixty years, has advanced with such rapid strides, and reduced the healing art to a degree of certainty, which could scarcely have been anticipated."

A little farther on we find him questioning the generally admitted fact of the existence of independent muscular action in the capillaries, without, however, disputing their liability to occasional expansion and diminution under peculiar conditions, but ascribing this change in their capacity to causes quite different to those usually assigned for its production. After having in a page or two previously described, what obviously appears to be the characters of the walls of those vessels, he thus proceeds to explain the inferences which he has drawn, and the conclusions which he has arrived at, under all the circumstances of the case:—

"The very first step in the process of inflammation is an altered sensibility of the part, produced by some hurtful agent, which the system makes an effort to dislodge. To effect this, the local impression is reflected upon the cerebro-spinal axis, and through this again upon the heart, which, being sympathetically incited to increased action, sends more blood to the part concerned than it is accustomed to receive, at the same time that the capillaries are perceptibly di-

lated. Those who maintain that the capillaries possess an inherent contractility, by virtue of which they aid in the circulation, may probably be disposed to deny the agency of the heart in bringing about this preternatural determination of blood; but if they will only study carefully the subject, they will, I am sure, arrive at a different conclusion. That these vessels do contract and dilate, no one will dispute, for experiment has fully decided this point: all that I contend for is, that the capillaries have no vermicular movement, and that they are, therefore, incapable of carrying on the circulation without the direct influence of the heart. In this inceptive stage of inflammation this sympathetic action of the heart is, no doubt, so slight as frequently to escape the attention of the observer; but as the disease progresses, it assumes a more distinct character, and can always be easily recognised."

There can be no doubt that the opinions here laid down would seem to be extremely rational, and equally as entitled to a just consideration as any of those inferential hypotheses solely derived from the acknowledged muscularity of the capillary walls, but still, unfortunately for the stability of the theory, however ingenious it may be allowed to be, in the first volume of Hassall's "Microscopic Anatomy, at p. 72, may be found the following details of an observation scarcely calculated to confirm the exact justice of the views as above recorded:—

"I come now to record an observation, which, as far as I am informed, is without parallel. On one occasion, when examining the tongue of a frog, a portion of it broke away from the remainder; this I placed between two plates of glass, and submitted to examination, when, extraordinary to say, it was perceived that the circulation was still vigorously maintained in the majority of the vessels. Anxious to know how long this circulation would be continued, but fully expecting to see it cease every moment, myself and a friend, John Coppin, Esq., of Lincoln's Inn, watched it for upwards of an hour, at the end of which time the blood still flowed onwards in many of the vessels, with scarcely abated vigour, though in others, often the larger ones, the motion had altogether ceased. The mutilated portion of the tongue was then placed in water, in which it remained during the whole of the night; the next morning it was again examined, when it was found that a tolerably active circulation still existed in several of the smaller vessels. After this observation the further examination of the fragment was abandoned. The almost immediate cessation of the circulation, which occurred in some of the larger vessels, admits of explanation in the following way:—In some vessels the blood globules were seen escaping from their open extremities; this effusion of the globules frequently continued for two or three minutes, until the entire contents of such vessels became poured out, when, of course, the circulation within them

ceased, the circulating fluid being expended ; in other capillaries the current was seen to stop long before their contents had been exhausted, in which case it was usually to be remarked that some of the blood corpuscles contained in the vessels had collected around their orifices, thus producing an impediment to the further maintenance of the current.

" The foregoing observation is one of much interest and importance; for it seems to prove that the capillary circulation is, in a great measure, independent of vital influences, and that its persistence is mainly due to physical agencies."

In undertaking the review of a work of this nature, we are invariably enabled to shift our ground with the greatest rapidity from one subject to another, and this can easily be done without the slightest confusion, a circumstance always to be most carefully guarded against in noticing those publications which are particularly devoted to specialties. Thus, for instance, we may pass on at once to that section confined to the consideration of tubercular deposit, a lesion of very general interest to the profession at large, and one that has hitherto baffled the efforts of the highest talent and most varied attainments, in the futile attempt to throw even a ray of light on the real cause of its production, or, when once fairly established, on the means by which it may be even partially encountered, not to say totally eradicated from the system. All that has hitherto been written on the subject leaves us still totally in the dark as to their actual character, and we can pronounce with no certainty whether they are new formations or structures always congenitally existing, but in a form too minute to be detected by the nicest observation ; whether they are all originally of a different nature, or whether they are all one and the same, but seen at different stages of development ; whether they are organized or unorganized ; whether softening commences at the centre or circumference ; and, what is still more important, whether the disease can ever be rendered amenable to a process of treatment terminating in a radical cure, or must it be placed in the same category with cancer and its cognate affections, obstinate against every remedy which art, assisted by nature, can fairly hope to devise ? It is strange, how member after member of a numerous family will be rapidly struck down, and yet the survivors, although too painfully aware that they have themselves become the victims of many of the premonitory symptoms so anxiously watched in others, will yet, with a delusion scarcely credible, cling fondly to hope, nor cease to express the fullest reliance on the skill and ability of their medical attendant to rescue them from the unrelenting

grasp of their insidious foe, till their cherished dream of hope lapses gradually into the still and unconscious dream of eternity. Take up the works of Louis, Andral, Laennec, Elliotson, Watson, with a host of others, and examine them on this subject, and what will we find? A mass of verbiage, but with nothing definite to act upon. And if, then, Dr. Gross lays down a principle which he conscientiously and from experience believes to be correct, however opposed it may be to the opinions entertained by those high authorities, it should be received with every degree of respect and consideration, as at least affording a feasible mode of arresting the disease in the commencement, by a cautious employment of antiphlogistic measures,—a means, we must be candid in stating, too much neglected in the present day.

"In former editions of this work I expressed the opinion that tubercles are always of inflammatory origin, specific in its character; and a more thorough examination of the subject since has only tended to confirm this conclusion. The concomitant action is usually very languid, or so mild and imperceptible, that extensive mischief is often done before the patient is aware of it. In this respect the development of tubercles resembles that of a strumous abscess, which is rarely characterized by any of the ordinary phenomena of phlegmasia.

"The doctrine of the inflammatory origin of this disease is countenanced, if not actually established, by the following circumstances:—

"First, by chemical analysis. Experiments show them to afford albumen, gelatin, and fibrin,—substances which, whether they occur alone, or in combination with each other, are always to be regarded, when found upon the surfaces or the interstices of the organs, as the result of inflammatory irritation.

"Secondly, tubercular matter bears a very great resemblance to spoiled, degraded, or cacoplastic lymph, which is an acknowledged product of inflammation.

"Thirdly, the deposit is often excited by cold, especially when conjoined with moisture, and by unwholesome, indigestible, or unnutritious food. Dyspepsia frequently leads to the same result. By the former are produced internal congestions; by the latter a poor and impoverished state of the blood, so favourable to the development of tubercle.

"Fourthly, in many cases the disease is attended or preceded by hyperæmia, or active congestion. This often happens in the lungs, the pleura, peritoneum, and lymphatic ganglions.

"Fifthly, the doctrine of the inflammatory origin of this deposition derives great plausibility from what occurs in the inferior animals from mechanical irritation. In the experiments of Cruveilhier, Kay, and Saunders, well-characterized tubercles were produced

in a very short time simply by dropping mercury into the trachea. Similar effects are frequently witnessed in miners, needle-grinders, and weavers, who habitually inhale gritty or irritating matter. Persons of this description are peculiarly prone to phthisis.

"Sixthly, there is no appreciable deposit or effusion in any of the shut sacs, cells, or cavities of the body, which is not, strictly speaking, the result of inflammatory action, though this may be too slight to attract attention, or to be attended by the ordinary phenomena of that process."

In the second part of his work, termed by the author "Special Pathological Anatomy," there is not a single organ or tissue of the entire human body that he has not submitted to the most complete and searching examination, and the appearance produced by every form of disease upon each has been most scrupulously noted and accurately described. From the mass of facts thus literally aggregated together, all of them having been apparently very carefully reconsidered and remodelled before a publication has been hazarded, it becomes, indeed, a task of no ordinary difficulty to select any single part which could be subjected to an analytical review with any prospect of interest or ultimate advantage to the general reader. By the very course he has pursued, the author has, in our opinion, adopted the wisest of all modes to disarm invidious criticism; for, while we may look in vain for those dogmatic assertions, unsupported by any positive proof, which disfigure the great majority of our modern publications, we will find, instead of them, a modest candour unhesitatingly laying down the opinions of others, yet at the same time exercising the undoubted privilege of occasionally dissenting from them, and advocating those entertained by himself, whenever they seem to be justified by the circumstances of the case. We must, therefore, be satisfied with giving an extract or two at random from this section of the volume, more for the purpose of exhibiting the purity of diction and simplicity of style of our Transatlantic brethren than with the intention of closely criticising the sentiments which it would appear to be their object to impress. We quote, for example, his remarks on cerebral softening:—

"Softening of the brain is exceedingly frequent, both as an acute and as a chronic disease. It is by far most common in old subjects, but no age is exempt from it, not even early infancy. The parts of the brain which, according to my own experience, are most liable to it, are such as are most obnoxious to sanguineous effusions, as the fornix, interventricular septum, great commissure, optic couches, and striated bodies; the frequency with which they are affected being in

the order here enumerated. In the majority of cases I have found the figurate bodies alone implicated, the convolutions and other structures retaining their normal characters. Both cerebral substances are almost always simultaneously softened, though the white is often affected in a much greater degree than the cineritious.

The extent of the lesion varies in different cases. Occasionally large masses are involved, as one-third, one-half, or nearly the whole of one hemisphere; more generally, however, the lesion occurs in circumscribed spots, varying from several lines to one or two inches, and leaving the rest of the organ of its natural colour and consistence. Sometimes the softening occupies a space not larger than a cherry, a pea, or millet-seed, while in others it is spread over almost the entire surface of both hemispheres and that of the ventricles. A remarkable example of softening of the brain came under my notice in 1836, in a man forty-five years old. In this case, examined twenty-four hours after death, both the white and gray substance had lost much of their natural firmness and cohesion. The whole of the fornix, excepting its anterior pillars, the interventricular septum, part of the great commissure, and the pineal gland, were completely dissolved. The striated bodies, optic couches, and quadrigeminal tubercles, were likewise much softened, and so tender was the base of the brain, that the medulla oblongata, cerebral crura, and roots of the nerves, were all left behind in the attempt to remove the organ from the skull. In the cerebellum the parts which were more particularly diseased were the cerebello-testicular processes, the Vieussinian valve, and the gray substance on the under substance of each lobe. The vessels of the pia mater were excessively gorged with blood, and the fibrous texture of the hemispheres, especially of the right, exhibited a considerable number of small rose-coloured patches, dappled with black points corresponding with the orifices of divided capillaries. No lesion, as far as could be discerned, existed in any other organ.

"The appearance and consistence of the part affected vary according to the duration of the disease and the intensity of the exciting cause. In the early stages the changes are always very slight, and can only be recognised by the touch. At a more advanced period the continuity of the organic particles is sensibly disturbed, and the nervous substance is so soft, that it may be readily broken down with the finger into a thin, pap-like mass. It is no longer able to sustain the slightest weight, and frequently has no more consistence than so much cream or thickened milk; it may be easily scraped with the knife, but to cut it smoothly is impossible. Having attained this degree of softening, the cerebral tissue soon falls to pieces, forming thus a breach of continuity, occasionally of very considerable extent. If examined with the microscope, the small vessels appear coated with granular matter; and in the softer portions of the mass numerous granules and exudation corpuscles are seen mixed with a portion of nerve-tubes; an odour, like sulphu-

retted hydrogen, sometimes exhales from the disorganized mass, but this is rare.

"Although the softened parts are occasionally separated from the sound by a distinct line of demarcation, yet more commonly they run insensibly into each other; the colour varies according to the time that has elapsed since the invasion. In the early stage, when there is usually a considerable degree of inflammatory turgescence, it is often of a uniform rose-tint, studded with dots, or marked with purple arborescent lines; more rarely we find small hemorrhagic effusions, and patches of a dark leaden hue, produced, doubtless, by intense capillary injection. At a later period of the disorganization, the part is usually of an opaque-white, brownish, yellowish, or greenish colour; or these tints are blended, different shades of them occurring at different points, or even at the same place. The dull milky hue, which is so frequently observed in this affection, is supposed by Lallemand to be caused by an infiltration of pus, an opinion which is evidently unfounded, as in the vast majority of cases no such fluid whatever is to be seen. In this condition, which is often found after hydrocephalus, the cerebral mass seems to be perfectly anæmic, not a drop of blood coming from the affected part when cut. In some instances the colour remains. When this happens, which, however, is rather rare, the softening is usually confined to the fibrous structure, and may readily escape notice. In this affection the pia mater is sometimes seriously implicated. When the softening is seated on the convoluted surface of the cerebrum or cerebellum, or on the surface of the striated bodies and optic couches, the membrane is generally preternaturally red and tough, and on attempting to raise it, the disorganized gray substance often separates along with it. In other cases I have found portions of the pia mater completely destroyed or converted into a dirty brownish pulp, devoid of every feature of the original texture. These changes are particularly liable to happen when the softening affects the surface of the figurate bodies in the floor of the lateral ventricles. In these cases the arachnoid frequently experiences the same fate," &c. &c.

With this extract, which presents a very fair average specimen of the character of the latter part of the work, we must conclude our notice of the present volume; and in doing so we most sincerely congratulate the author on the successful manner in which he has accomplished his proposed object. His book is most admirably calculated to fill up a blank which has long been felt to exist in this department of medical literature, and as such must become very widely circulated amongst all classes of the profession.

## Fiske Fund Prize Essays.

*The Effects of Climate on Tuberculous Disease.* By Edwin Lee, M. R. C. S. London. Philadelphia: Blanchard and Lea. 1857. 8vo, pp. 73.

*The Influence of Pregnancy on the Development of Tubercles.* By Edward Warren, M. D., of Edenton, N. C. Philadelphia: Blanchard and Lea. 1857. 8vo, pp. 42.

"Dr. Caleb Fiske, who was President of the Rhode Island Medical Society in 1823 and 1824, at his death bequeathed to that Society a fund of 2000 dollars, directing the annual income to be expended in premiums for essays on subjects selected for competition. The first premium of 40 dollars was awarded 27th June, 1836; since which time a large number of valuable dissertations have been laid before the profession through the instrumentality of Dr. Fiske's well-directed munificence. By the judicious management of the trustees the fund has gradually increased, and they are now able to offer two annual prizes, of 100 dollars each.

"The essays in the present volume are those to which the prizes of 1855 and 1856 were awarded. Connected by the topics discussed, and presenting a large amount of important information on one of the most interesting and difficult subjects of medical science, the trustees have been desirous of presenting them in a more permanent form, and they have accordingly been reprinted in their present shape from the American Journal of the Medical Sciences, for April and July, 1857, in which they originally appeared."

The author of the first of these essays opens the subject with some general preliminary observations, in the course of which he takes a brief survey of the opinions which have been expressed by various writers respecting the nature of tubercular disease, and of the causes most frequently tending to its development. The question as to the curability of consumption is settled at once in the affirmative—"the fact having been verified in numerous instances of persons, who, after having presented all the general and local indications of its existence in various stages of structural lesion, have recovered—living in the enjoyment of tolerable health until a more or less advanced age, when on their succumbing under some other disease, the examination, p. m., has revealed the traces of the former malady."

We are disposed to demur to some of the propositions presented to us in the following remarks:—

"In Great Britain more especially, as also in the United States, practitioners, unlike those of most European countries, are accustomed to trust almost exclusively to pharmaceutical agents in the

treatment of chronic diseases, but seldom endeavouring to rectify the abnormal conditions of the system, upon which depend morbid local manifestations, by the employment of hygienic and medical means, which, by effecting favourable modifications in the constitution of patients, tend to procure permanent cures instead of a temporary alleviation of suffering, or a transient amelioration of their state. 'To occupy one's self in treating merely the manifestations of a diathesis,' says a distinguished French physician, 'is generally as if one were to run after the shadow, and leave the substance which it is desirable to obtain.' And the adoption of this mode of treatment in a disease which, like consumption, so directly compromises the lives of the persons affected, is attended with the most pernicious consequences, because the precious time is lost, during which there would be the greatest probability of succeeding, by the employment of climate and other suitable measures, until the disease has arrived at a stage when the use of all remedial means would fail to arrest its progress. A serious obstacle, however, presents itself to the favourable termination of the disease, in many cases where a cure might be effected, viz., the difficulty which often exists in ascertaining the presence of tuberculous disease at its outset. A minute examination of the physical signs supplied by an abnormal state of the respiratory function would, in many instances, lead to the discovery of tubercles in the lungs before their presence was indicated by clearly marked general symptoms; but the majority of practitioners are scarcely capable of making such an examination as would frequently suffice to detect pulmonary disease in its earliest stage, *especially in England, and probably also in America*, where exploration of the state of the organs contained in the thoracic cavity, by means of auscultation and percussion, *forms no part of the education of medical students* [!]. It consequently follows that the weakness, and various other symptoms experienced by patients in the early stage of pulmonary tuberculization, are *usually regarded* as the indication of no very serious malady, or of a temporary indisposition; which opinion is often confirmed for a period by the amelioration which takes place from time to time in chronic cases, and by the temporary cessation or alleviation of *chest symptoms*, produced under the influence of favourable circumstances, as the summer season; a residence in the country for some weeks or months; or of the remedies which may have been had recourse to. Hence patients, their friends, and frequently the medical practitioner, are *misled* as to the true nature of the disease, until at the expiration of a longer or shorter period, either spontaneously or from the action of some exciting cause, the symptoms reappear with aggravated intensity, and auscultation, practised by *an experienced physician*, renders its existence apparent."

We abstain from commenting upon the views of the essayist as here laid down, and would merely observe that in following him as he continues his argument to the end of this chapter, we

have not succeeded in discovering what are the true diagnostic marks which he would have us to receive as our guide to the successful treatment of tuberculization in its early stage; in fact, the very information which the *majority of* (uneducated) *practitioners* should naturally expect to find laid down in a lucid and masterly way in the present treatise is unaccountably omitted.

The second chapter, which is devoted to an examination of the nature of pulmonary tuberculization, presents a very fair review of the most approved modern opinions on the subject, and, as is usual in essays of this kind, deals largely in quotations.

The causes of pulmonary consumption are treated of in the next chapter, and then we arrive at the more immediate subject of the essay, namely, the effects which climate is calculated to produce upon those predisposed to or labouring under tubercular disease.

The general conclusions at which the author has arrived may be thus indicated:—

Tuberculous disease of the lungs is curable in an indefinite proportion of cases; and this proportion is capable of being increased by the more general and timely employment of climate and other hygienic means, which are at present seldom had recourse to until the disease has advanced too far.

Tuberculization probably depends on impoverishment of the blood, marked by diminished amount of globules, and a change in its general composition; this state is chiefly caused by a deficient *excretory* action of the skin, as well as diminished *respiratory* function of the same organ.

A humid state of the atmosphere, by tending to depress the vital powers, particularly the activity of the capillary circulation, favours the development of phthisis; in like manner act also the various depressing passions.

Tuberculous disease is comparatively rare in cold and dry climates; rare also in warm and dry countries, where open-air life is enjoyed, and the functions of the skin are maintained without much muscular effort. On the other hand, it is frequent in climates which are hot and moist, this state of atmosphere tending to repress the insensible perspiration, and to induce a state of general relaxation and deficient tone.

The chief indications of treatment by means of climate are, first, to obviate, as far as possible, the morbid condition of the blood, and thus to prevent or arrest the formation of the morbid product; and second, to allay the general and local excitation occasioned by the organic lesion.

The first indication is best fulfilled by change of air, and a

residence, more or less prolonged, in warm countries during the winter. The beneficial influence of climate in arresting the process of tuberculization would be the more marked in proportion as the disease is recent.

The best winter residences are those which, together with a suitable climate, possess resources for mental occupation and open-air amusements.

Warm and dry localities are, in general, better suited to those of lymphatic temperament and languid circulation; whereas patients of sanguine or nervous habit, with a brisk circulation and a tendency to hemoptysis, find relief in an atmosphere of moderate degree of moisture.

Among the climates most in repute for their efficacy in retarding the progress of pulmonary consumption, those of Upper Egypt and the S.E. coast of Spain are the most remarkable for their warmth and equability in winter, as well as for the dryness of their atmosphere. To these climates, Hyères, Nice, Menton, Malta, and Naples, approximate nearest as respects dryness, though differing materially in other respects. The West India islands and Cuba may be mentioned as a type of hot and moist climates. Among the intermediate climates characterized by variable degrees of warmth, equability, and humidity, are Madeira, Algiers, Pau, Pisa, Rome. The climate of the three latter is represented as of a sedative character

Sea voyages are often beneficial in the early stages, when no urgent symptoms are present. The advantages thence derived depend on the tonic effects of a continued renovation of pure air, not on the saline impregnation of the atmosphere.

Consumptive patients, in general, receive more benefit from land-travel through an agreeable country, than from sea voyages.

Appended to the essay are some brief notices of the leading peculiarities by which several places of resort are characterized. This final chapter may be referred to with advantage by those who are desirous to know something of the climate, scenery, and social condition of the following places: Pau, Hyères, Nice, Menton, Pisa, Rome, Naples, Palermo, Malta.

In the second essay, from the pen of Dr. Warren, on the Influence of Pregnancy, we have a clear and concise investigation of the questions, whether and how far the condition of pregnancy exerts a preventive influence on the formation of tubercles in the lungs of those predisposed to this disease, and whether it also exercises a retarding or suspending power in those cases in which the tuberculous diathesis has been already established.

Among the general conditions of the system which precede the development of the phthisical diathesis, the first in importance is a certain impairment of the digestive process, which manifests itself by a faulty transformation of the oleaginous elements into chyle, an insufficient formation of fibrine, &c.; in fact, this impairment of the nutritive function is inseparably connected with tubercular degeneration, and arises from an inadequate supply of nervous force to the several organs connected with the digestive apparatus. This view is strongly corroborated by the well-known sanative efficacy of those remedial agents, whether hygienic or pharmaceutic, which are included in the category of tonics; by these the nervous centres are gently but effectually stimulated, so that an increased amount of nervous force is generated and transmitted to the various organs, and in that way the health and harmony of the entire system is promoted.

The author describes disease, in general, as—

"A manifestation of certain phenomena, which depend upon the existence of some principle, different in its essence and operation from that agency by which the organism is maintained in its normal state. It consists in the presence of a series of effects which are the results of the action of a particular cause. This *cause* operates, and these *effects* are produced, in consequence of some alteration of the natural condition of the system whereby a state is developed favourable to the action of the one, and the manifestation of the other. Hence, we have three elements essential to disease:—1. An *altered condition*, resulting from the operation of some *general influence* or cause, unlike the normal or *healthy condition*, and favourable to the action of a *particular cause*. 2. A cause, distinct alike in its intrinsic character and in its ultimate effects, and operating in a peculiar manner. 3. Effects, or symptoms, which take their character from the peculiar agent which has called them into existence, and from the manner of its action."

After some general remarks on the nature of the law of antagonism, as enunciated by Hippocrates, in which the author demonstrates its logical truth and practical applicability, he then proceeds to examine into the nature of phthisis and of pregnancy, for the purpose of showing that the latter condition develops in the system a state which is directly antagonistic to that which favours and accelerates the deposition of tubercle. Thus, pregnancy implies the existence of a physiological process, which requires a certain amount of *health;* in which the vital principle attains, as it were, a maximum of development. 2. It is marked by the extraordinary enlargement of the uterus, chiefly of its *muscular* tissue, accompanied by augmentation of

*strength*, roundness of figure, and appearance of plethora. 3. Although frequently attended with an interruption of the process of digestion, it is not, like phthisis, preceded or accompanied by a positive *impairment* of this process. 4. The state of the blood in pregnancy is essentially different from that of phthisis. 5. In consumption the great burden of combustion and depuration falls upon the lungs; whereas in pregnancy, although the balance is disturbed, the burden falls on the liver (see Rokitansky, Montgomery, Burns, Chailly). 6. The nervous system in pregnancy is in a condition of exaltation, of unusual action; quite opposed to the state of absolute depression or debility by which phthisis is characterized. 7. The effects of tonics, both general and special, in a phthisical state of the system, are in a high degree beneficial, whereas in pregnancy they are not only uncalled for, but positively contra-indicated, as serving to increase the plethoric tendency of the system.

The author is opposed to the belief that the general proportion of females who die of consumption is greater than that of men, and maintains that we have no positive evidence in support of this assumed fact, so strongly insisted on by Louis and Laennec; he says:—

"An examination of statistics proves, that it is not a settled fact that more females are destroyed by this malady, and that there is a positive approximation towards equality in the effects of phthisis upon the two sexes. This 'approximation towards equality' shows the operation of some great equalizing cause, by which a certain amount of protection is secured to the female system, that makes up for its greater original susceptibility, and affects the general result in the manner alluded to above. *Pregnancy* complies with *all* the conditions which this cause demands for its operation, and it is fair to attribute this protecting and equalizing effect to its influence on the female system."

In conclusion, it only remains that we should express the gratification we have felt in the perusal of this compact but clear exposition of a most interesting question.

*How to Work the Microscope. A Course of Lectures.* By LIONEL S. BEALE, M.B., F.R.S. London: Churchill, 1857. Fcap. 8vo, pp. 124.

ALTHOUGH, latterly, microscopes have become "plenty as blackberries," and even junior students talk learnedly about "nucleated cells," "tesselated epithelium," and the like, we are far from thinking an additional elementary work a superfluity. Many a one, after making himself master of the mechanism of the microscope, of the optical science involved, and of the interesting results which have followed its use, has been sorely puzzled and discouraged on attempting the investigation for himself. This has often arisen, doubtless, from commencing with the examination of morbid tissues instead of crystalline products or the simpler forms of vegetable life; but to a certain extent every one must have felt the want of a plain and intelligible manual, which should tell him more minutely the best method of proceeding, in the fullest detail. Now this is what Dr. Beale has furnished for our benefit. His former work on the application of the microscope to clinical teaching is most valuable, indeed indispensable, to both students and practitioners; but in the present volume he enters into more minute details, and explains more fully how we are to proceed in our researches. In his own words, which we think he has made good, "my aim will be to describe to you the mode of examining different objects in the microscope, the best methods of displaying their structure, and the manner in which they may be preserved permanently." Few persons who have tried to work on by themselves, and found the numerous little obstacles which start up at every step, will be among those whom Dr. Beale fancies—

"May stigmatize many little points to which I shall have to allude as merely mechanical; others may be regarded as belonging rather to the province of the chemist than to the microscopical observer, and not a few will strike you as unimportant and hardly worthy of attention. I feel strongly how intimately success in microscopical as well as chemical inquiries is connected with a readiness in surmounting comparatively small difficulties, and with the possession of mechanical dexterity. And I should be doing a great injustice to my pupils if I did not bring these processes under their notice, and endeavour to facilitate, as far as possible, the performance of those operations which are essential to the successful demonstration of the management of textures under the microscope. Depend upon it, these are questions not beneath the consideration of any one who takes a real interest in the structure of the different organisms by which he is surrounded; and it is the same in this as in other

branches of inquiry, that he who is most fully conversant with elementary detail will be the most successful in the consideration of the higher and more abstruse problems, while he will feel a real love for his work which is denied to the more superficial inquirer."

The little volume before us consists of eight lectures, delivered by Dr. Beale to his class; the first four lectures are occupied by details concerning microscopes, the instruments required in microscopical research, and the method of making the cells used in preserving objects. These points are so fully treated in other works that we shall not detain the reader about them, merely observing that, whilst all this apparatus, including a first-class microscope with all its appurtenances, is very desirable and advantageous to those who have money to spare, the real work can be done at an incomparably less expense. The admirable researches of Ehrenberg were performed with a microscope very inferior to the ordinary ones in use among students. An educated eye and hand are the most important elements.

The fifth and subsequent lectures are devoted to the consideration of the mode of examining objects, of examining and preserving tissues, of injections, and of the value of chemical reagents in microscopical investigations. Two supplementary sections are added, which the student will find very useful, viz., tables for practising the use of the microscope and manipulation, and a list of the apparatus required in microscopical investigation.

The fifth lecture commences with some general considerations upon the structure of tissues, in which the author points out their composite character, and the difficulty thus occasioned in their demonstration:—

"The vast difference in the properties of the several textures above enumerated renders it absolutely impossible that all can be distinguished in a single specimen; for the circumstances which favour the exhibition of one structure will necessarily render another quite invisible. Hence, before we can hope to demonstrate satisfactorily the anatomical peculiarities of any one of these different textures, we must become acquainted with its general properties, and must consider the mode of examination likely to be most efficient in rendering them distinct." "Now, some observers who have not sufficiently considered the different characters of the elementary structures of which most of the organs of the body are composed, have strongly objected to what they term *methods of preparation*, considering that by these processes structures are even *formed*, which have no real existence in the natural state of the part. In this view there is some reason. Doubtless, from the examination of a dead

tissue, we can form but an imperfect conception of the beauty of its elementary parts, and their wonderful adaptation to the office they are designed to perform in the animal economy; neither can we form an idea of the changes it undergoes during its vital activity; and we must remember that there is no known fluid in which we can immerse a specimen for examination which possesses the precise character of that which bathes the tissue during its lifetime. Serum may, perhaps, be the nearest approach to such a fluid, but there is every reason to believe that this differs from the fluid surrounding the primitive particles almost as much as some artificial media which have been proved by experience to give very satisfactory results. Objectors to the preparation of tissues have not satisfactorily proved that many of the structures that we see after death have a precisely similar appearance during life, and it is more than probable that many of the more delicate tissues have never been seen by any one in the condition in which they exist during life. I believe that the amount of opacity which is absolutely necessary for seeing some of them is quite inconsistent with their vitality, and is the result of a change which has never been fully appreciated, though, perhaps, some idea of its nature may be formed by considering the character of fibrine in living blood, and fibrine removed from the organism and coagulated, or those of albumen dissolved in the serum, coagulated, but transparent in many of the tissues, coagulated and opaque after the addition of different reagents."

Very careful instructions are given as to making these minute dissections, and of the instrumentality required, such as loaded corks, slabs of wax for pinning preparations upon, &c., and directions as to making thin sections, whether dry or moist. This, as all microscopists know, is absolutely necessary to examine objects in various ways and in different media, and to submit portions to the test of chemical reagents.

But after an object has been thoroughly examined, it may be very desirable to preserve it as a permanent record; and this may be done in various modes, either as a dry preparation, or immersed in aqueous fluid, glycerine, oil, turpentine, Canada balsam, &c. For each we are supplied with full instructions. Take an example :—

"Suppose a portion of this muscular fibre is to be examined under the microscope, I remove a small piece with a pair of very fine scissors, and place it carefully upon this glass slide. With the aid of two needles, I tear it into very small shreds, and then moisten it with a little water dropped upon it from the finger, or from a pipette or from the wash-bottle; or I add to it, instead of water, a drop of serum, of syrup, or of glycerine; next a square or circular piece of thin glass held in a pair of fine forceps is gently breathed upon and applied to the surface of the liquid, being brought into contact

with it first on one side, and afterwards allowed to fall down very gradually with the aid of a needle or a piece of fine wire placed underneath one edge, until it is completely wetted. Lastly, any superfluous fluid is to be absorbed by a cloth or a small piece of fine sponge or blotting-paper, and the slide placed in the field of the microscope for examination."

The proper methods for permanently preserving the specimen thus examined are noted, and afterwards for examining and preserving objects in Canada balsam. The mode of separating deposits from fluids is then shown, and next we have some valuable directions for the examination and preparation of the infusoria, diatomacea, &c. In a very short space the student will find ample details for his guidance in most particulars. We shall conclude this imperfect notice of Dr. Beale's excellent little manual by quoting his general considerations with reference to the nature of the medium in which tissues should be examined :—

"If the structure be dry and very thin, or if we require only to make out any general points with reference to its outline, or the character of its surface, it may be examined in air. So also many structures examined by low powers and by reflected light, exhibit their general structure very satisfactorily when mounted perfectly dry. If the structure be delicate and moist, and readily destroyed by careless manipulation, it should be examined in some aqueous fluid when quite fresh. The character of the fluid will vary in different cases. Water answers well in many instances, but the microscopical characters of some textures are completely altered by water, or even altogether destroyed by it. Others are so dark and opaque that they are not well displayed in water. Cellular structures become distended by it. In consequence of containing a denser fluid in their interior, the more limpid water passes through the cell-wall, and mixes with the cell contents. The cell thus becomes distended by this flowing in or endosmosis, and the process may go on to such an extent as to cause the rupture of the cell and the escape of its contents. To prevent this result, it is necessary to immerse the structure in some fluid approaching to that in its interior in density. A little white sugar may be dissolved in the water with this end, or a little glycerine may be added to it for the same purpose. Perhaps, of all the substances soluble in water, glycerine is one of the most useful to the microscopist. With glycerine he may obtain a fluid of any density and of various degrees of refracting power. Moderately strong solutions of glycerine preserve organized structures for any length of time. Glycerine is to moist tissues what Canada balsam is to textures which are capable of being dried, without their structures being impaired. The most dense, opaque, and ill-defined structures, immersed in glycerine, become clear and transparent; and

anatomical peculiarities which were before indistinct or not observable, become demonstrable without difficulty. Another advantage is, that by the addition of a little water, all the original characters of the tissues are restored.

"Canada balsam excites a similar effect upon many textures in rendering them transparent, but it is, of course, only applicable to those structures which are not altered or destroyed by drying, and its use is, therefore, very limited. Glycerine does not possess these disadvantages, and in it any moist tissue may be placed. Glycerine might be termed the Canada balsam of moist tissues."

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*On the Expediency of instituting an Academy of Medicine in England; illustrated by the prevailing opinions and practice respecting the use of Chloroform in Operations.* By JAMES ARNOTT, M.D. London: Churchill. 1857. Pamphlet, pp. 16.

ACCORDING to Dr. Arnott, it would be "expedient" to institute an Academy of Medicine for "putting down" chloroform, and "putting up" congelation. That is the end and aim of the pamphlet, which is very rich in assertions, and deficient in facts. We differ entirely from Dr. Arnott, both as to his means and end. If an Academy of Medicine were instituted to decide upon the value of remedies, it would be an intolerable tyranny if it had legal power to enforce its decrees; and if without legal power, it could only act at all when embodying the general opinion of the profession. A free and abundant medical press is, after all, the best tribunal; any one can communicate his experience, and from this ample store of materials the profession will draw its own conclusions, which will react upon the press. That it may take more time before the full value of an improvement is recognised, we grant; but we think that no evil, and sure we are that success will be ultimately attained. We doubt, and more than doubt, whether any real discovery or invention of value has been actually lost. The illustrations Dr. Arnott has adduced are an argument on the other side. Dr. Bellingham's (alas! that we have to add "the late") cure of aneurism by compression has fairly fought its way through an amount of opposition that, embodied in an Academy, would have smothered it for ever. Dr. Arnott forgets that prejudice may exist in an Academy. As to the value of chloroform, it has been submitted to Dr. Arnott's desiderated test, and the French Academy have admitted its value. We cannot enter into a comparison between it and congelation at present. We

have no desire to undervalue the latter, believing, as we do, that for many operations, especially the minor ones, it may answer as well as, or better than, chloroform. And, for the prevalence of this opinion which we believe to be general, Dr. Arnott is indebted, not to his favourite "Academy of Medicine," but to the influence of a free medical press.

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*The Science and Art of Surgery. Being a Treatise on Surgical Injuries, Diseases, and Operations.* By John Erichsen, Professor of Surgery in University College. Second Edition, enlarged and carefully revised. Illustrated by 400 Engravings on Wood. London: Walton and Maberly, 1857. 8vo, pp. 725.

In our seventeenth volume we reviewed at length the first edition of this complete and excellent treatise on Surgery, which in our schools has confessedly succeeded that of Samuel Cooper. The author, in the second edition, now before us, has spared no trouble in its improvement in every respect. He has not only added the results of his own vast experience, accumulated both in hospital and in private practice, but he has brought it down, under every head, to the present state of surgery. In glancing through its pages we have been much gratified to find that he gives full and due prominence to the additions made within the last few years by the Dublin school, and chiefly through our pages, to the important subjects of the treatment of aneurism by compression, and of the resection of joints. The entire work, complete as the great English Treatise on Surgery of our own time, is, we can assure our readers, equally well adapted for the most junior student and as a book of reference for the advanced practitioner.

# PART III.

## MEDICAL MISCELLANY.

### PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.

(*Continued from* vol. xxiii., p. 220.)

SESSION 1856-7.

#### Second Meeting, January 16, 1857.

Dr. Sawyer detailed the history of a case of vesico-vaginal fistula, together with an account of the operation for its cure, viz., the quill section, as adopted by Mr. M. Colles. The case, which turned out most successfully, has been already published.

#### Third Meeting, February 25, 1857.

Dr. Hardy detailed the history of several cases in which foreign bodies had been introduced into the various mucous passages of the body. His remarks have been published elsewhere.

Dr. T. Hayden read the following history of a case of *Puerperal Scarlatina.* After remarking upon the fatal nature of puerperal scarlatina, the insidiousness of its approach, and its all but too unconquerable malignancy, he proceeded:—

"Mrs. H., aged about thirty-three years, of sallow complexion and nervous temperament, was delivered of her fourth child (a female), after twelve hours' labour, on Wednesday, March 21, 1855, at 12 o'clock noon. The placenta came away spontaneously about half-an-hour afterwards, and was followed by slight sanguineous oozing, which was easily controlled by a pad and bandage. The patient slept soundly for several hours the two following nights; lochia natural; had an aperient draught of castor-oil and tincture of rhubarb on Friday, 23rd. On Saturday was allowed an egg for breakfast and a chop for dinner, both of which she took with a relish. I found her doing well on Sunday, 25th, and, after directing a simple draught of oil, I was about to retire, when she incidentally called my

attention to a slight efflorescence on the arms, best marked at the flexure of the elbow-joints. This, she informed me, made its appearance on the previous night, *without chill*, or other premonitory or unpleasant sensation, and did not interfere with her rest. On my viewing it with an air of suspicion, she playfully inquired whether 'I thought it was scarlatina,' and suggested the possibility of its being the 'prickly heat,' which is a cutaneous eruption common in Mexico, where she had resided for several years with her husband, and whence she had but lately returned in order to be confined. I learned that whilst there she had repeatedly been the subject of this disease, which is usually unattended with febrile symptoms, and not peculiar to the puerperal state. To this view of the case I demurred, but expressed no positive opinion as to its nature, contenting myself with forbidding all food and drink of a heating or stimulating kind. The pulse was scarcely altered in character, at that period, from the standard of convalescence, and beat only 98 in the minute; the tongue clean and moist; and the throat unaffected. The medicine acted rather severely the following night, but there was scarcely any alteration in the symptoms next day (Monday), save that the eruption was more generally diffused over the arms, and now extended to the neck and chest. A few miliary vesicles appeared above the chin. Pulse same as yesterday; throat slightly red, but no uneasiness in swallowing; complained of slight cough. She gaily observed, that she was about 'importing the prickly heat into this country.' I, however, ventured to pronounce scarlatina, which she heard without evincing any sign of alarm. Ordered a simple expectorant mixture.

"Tuesday, 27th. Was very feverish during the night, and slept little; complained of a feeling of suffocation and violent beating of the heart; pulse 140; eruption now bright red; fauces covered with tenacious mucus; great thirst. Ordered a mild seidlitz powder, and an expectorant mixture, with carbonate of ammonia in three-grain doses; to have grapes, a little iced cream, and tamarind water; arms and face to be sponged with tepid dilute vinegar. I desired a consultation, and saw her again in the evening. The aperient medicine not having acted, a fetid enema was directed, and an expectorant mixture with citrate of ammonia, as the carbonate had produced 'a burning sensation along the throat;' and a blister to be applied to the chest. The eruption appeared to-day, for first time, on the lower extremities, but less vividly than elsewhere.

"Wednesday, 28th, 10 A.M. Case now truly formidable; tongue raspy; speech inarticulate; indistinct vision, and vertigo; pulse 144, and all but imperceptible; extremities cold; abdomen tympanitic; neck and abdomen covered with miliary vesicles, and a putrid odour exhaled from the body. Slightly purged last night: to have claret, brandy, and an opiate enema. I saw the patient again in the evening in consultation; symptoms unaltered, save as to intensity; patient now scarcely sensible to external impressions; to have wine and brandy repeatedly, as the power of deglutition was but little

impaired. 5 P. M. Eyes filmy, with accumulations of mucus in the angles and on the edges of the lids; deglutition now performed with difficulty. 10 P. M. Pulse scarcely to be felt; perspiration alternately hot and cold. She died at 5 A. M. on Thursday, 29th. The most notable features in the history of this painful case are, I think, the obscurity attending the means by which the disease was communicated to the patient, and the total absence of febrile excitement previous to, and for some days after, the appearance of the eruption. With reference to the first point, the only explanation I can offer is the following. It appeared that the patient had been visited on the first or second day after delivery by a female friend whose children had had scarlatina about three months previously; whether this visit was the medium of infection I am not prepared positively to say; but as it was the only one which I could glean, after a searching inquiry, I feel disposed to regard it in that light. The second feature in the case, to which I have directed the attention of the Society, furnishes matter for profitable reflection. The morbific poison would appear to have pervaded the system, developed itself therein, and appeared upon the surface in its characteristic form, without producing an appreciable amount of constitutional disturbance. This is scarcely reconcilable with the ferment-theory of eruptive fevers. I am inclined to think that, in addition to the usual examination into the state of the tongue, pulse, and abdomen, and the other routine inquiries, instituted at the bedside during the two or three days immediately succeeding that of delivery, it would be well, at least where scarlatina was prevalent, to examine the cutaneous surface, and the most convenient point that could be selected for this purpose is the flexure of the elbow-joints. It is not necessary to fix attention upon the fatal tendency of puerperal scarlatina as exemplified in the foregoing case, nor upon the utter inefficacy of all known medicinal means to arrest its progress."

### Fourth Meeting, March 25, 1857.

Dr. Bagot related a case of *Abdominal Presentation* in which unusual difficulty was experienced in the introduction of the hand; the introduction not having been effected until evisceration had been performed.

Dr. Jennings read the following communication from Dr. French, of Ballygar, in the county of Galway:—

"The extreme rarity of quadruplet births is sufficiently established by the fact, that among the vast number of women delivered in the Rotundo Hospital since this institution was first opened for the admission of patients, on the 8th of December, 1757, down to the close of the year 1855, amounting in all to 170,901, labour under this particular variety of complication has been witnessed only once, namely, in the year 1788, during the second year of the Mastership of Dr. J. Clarke. The following case, therefore, which has occurred in the practice of Mr. French, of Ballygar, in the county of Galway, and which he has forwarded for the information

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of this Society, will be regarded as not destitute of interest, not merely as furnishing another authentic instance of this form of plural pregnancy, but also in that it presents some features of considerable importance.

"Bridget Loghan—aged 38, a stout, healthy countrywoman, several months advanced in this her sixth pregnancy, whose previous deliveries had been in every respect perfectly natural, and who represents that, with the exception of having recently become thin, pale, and suffering from œdema of the feet and ankle-joints, her health has been as good as during former pregnancies; her unusually great size, which had attracted the attention of all her acquaintances, and caused them to suspect that she was carrying twins, not even preventing her from uninterruptedly discharging the laborious duties of her household—was on Saturday, the 10th January last, attacked by slight uterine pain, which continued until the following Monday evening, when, about 11 o'clock, she was, under the supervision of a midwife, delivered of a living female child, which presented by the feet. Within the course of the ensuing hour, a second female child, which presented similarly, was expelled without assistance. All uterine action now disappeared; and, after the lapse of twelve hours, the uterus still continuing large, created a suspicion that there might be still another child, and induced the attendant, who had moreover become alarmed by the non-expulsion of the placenta, to at length summon Mr. French, who arrived on Tuesday morning, at 12 o'clock. On placing the hand over the umbilicus, Mr. French instantly detected the presence of the distended uterus; and on making a vaginal examination, found the head of a third fœtus floating above the brim. He at once administered a dose of ergot, followed in half-an-hour by purgative medicine. After the lapse of two hours, finding the patient still in the same state of uterine inertia, Mr. French at once proceeded to deliver her by version. This child proved to be a male, and only breathed for a few minutes. The abdominal tumour still being very large, the hand was again introduced, when the membranes of a fourth child, also presenting by the head, were detected. These being ruptured, delivery was effected, as in the preceding instance, by version, the child, which was a male, being born alive. The quantity of liquor amnii in both these cases was exceedingly great. In consequence of the total absence of uterine contraction, it now became necessary to remove the placentæ by the hand. There were two in number. The following is Mr. French's description of them:—

"'To the centre of that first extracted there was attached a single "stalk-like" funis, about one inch in length, which then divided into two branches, the last child and its membranes being (according to Dr. French's views) enclosed within a bag of membranes, common to it and to the third; the other placenta was of the ordinary "battledore" species. The children all died: the first on the second day, the second on the third day, the third immediately after

birth, the fourth after the lapse of a few hours. The convalescence of the mother was rapid and complete.' "

Dr. Jennings concluded with the observation:—" If Mr. French's description of the first placenta be correct, the only way in which we can account for the anomaly is, by supposing that two totally distinct embryos were developed in a single blastodermic membrane, and thus became subsequently included within a single amniotic membrane, a deviation from the customary law of nature, directly contrary (so far as we are instructed) to all received doctrines of ovology. Indeed, on more carefully reading his own history, we find that he had to rupture a distinct set of membranes for each of the two last children, thus proving that there must have been two separate amnions. It is probable that had his examination of the placenta been more careful, he would have found that there were originally two distinct 'battledore' placentæ, the edges of which, together with the placental extremities of the funes, had become intimately and similarly fused together by adhesion. Had both children been in any way connected (as for instance the Siamese twins), we could readily understand them to have been another specimen of '*monstrosity by inclusion*,' both being inclosed within a single amniotic sac, in consequence of two ovula having been originally included within a single vesicle,—a sport of nature, not confined (as we are well aware from the writings of the immortal Harvey) to the animal kingdom.

## Fifth Meeting, May 9, 1857.

Dr. M'Clintock brought forward some cases of *Laceration of the Vagina and Uterus*, in illustration of the obscure character of the symptoms which occasionally accompany such formidable accidents, and the consequent difficulty of making a positive diagnosis.

Dr. Sinclair read the following remarks on the *Excitation of Fœtal Movements by Cold;* communicated by Dr. Aveling, of Sheffield:—

" Professor Simpson and Dr. Tyler Smith have done a great deal lately towards depriving us of one of the most useful signs of pregnancy. Both deny that the cold hand applied to the abdominal walls of the mother has any power in producing movements in the fœtus.

" Professor Simpson says[a]:—'It is very generally believed by accoucheurs that the sudden application of a cold hand, or other similar body, to the cutaneous surface of the abdomen of a woman advanced in utero-gestation, is capable of exciting movements on the part of the fœtus; and such application has been often recommended as one of the simplest and best means of ascertaining, in doubtful cases of pregnancy, both the existence and vitality of the child[b].

[a] Obstetric Works, vol. ii. p. 149.

[b] See, for example, Montgomery's Exposition, &c., p. 89, &c.

But as there is no direct organic communication between the abdominal walls of the mother and the body of the fœtus, or between the nervous system of the mother and that of the child in utero, the power of exciting muscular movements in the latter by a sudden impression of cold upon any part of the abdominal maternal skin, seems, physiologically considered, an impossibility; and clinical observation and direct experiment seem to me to prove the whole idea to be fallacious.'

"I hope before the conclusion of this paper to show that it is not impossible to account, physiologically, for the muscular movements of the fœtus which follow the application of cold to the abdominal maternal skin. Before proceeding to this, however, let us examine Dr. Tyler Smith's opinion. He says[a]:—'A very common plan is to place the cold hand, or the hand just taken out of cold water, upon the abdomen, with a view to excite the movements of the fœtus, for the purpose of diagnosis in suspected pregnancy. It is imagined that the fœtus is affected by the temperature of the external hand. When we consider, however, that the integuments and abdominal muscles, the uterus, membranes, and the liquor amnii, all intervene betwixt the cold hand and the fœtus, it is rather too much to suppose that any direct thermometric influence can be exerted on the embryo by such means. A reflex contraction of the uterus itself, from the application of cold to the abdomen, is readily comprehended; and no sound physiologist would think of giving any other solution to such movements, if the experiment were performed either during or soon after parturition. Why, then, accept such a different explanation of the movements of pregnancy?'

"I hope I shall not be considered an unsound physiologist if I now proceed to ask you to accept a different explanation.

"That fœtal movements may be produced by cold applied to the walls of the abdomen has been empirically acknowledged as true for a long period. The time has now come when it must be substantiated by science, or fall.

"The fœtal movements are produced by pressure.

"1st. The sources of pressure are:—

"*a.* The hand of the operator.

"*b.* The muscles of respiration.

"*c.* The uterus.

"*Pressure from the hand.*—The degree of pressure will vary with every experimentalist, some having light, others, heavy hands. In cases where the walls of the abdomen are very fat, the pressure required to distinguish the uterus will be greater. The effect of the hand has hitherto, however, been insignificant when compared with the other two sources of pressure, as cold alone has been considered the chief agent in producing the motions of the fœtus. The pressure

[a] On Parturition and Obstetrics, p. 99.

of the hand is much lessened by having to pass through the walls of the abdomen, the parietes of the uterus, and the liquor amnii. Notwithstanding this, Professor Simpson considers, when fœtal movements do occur, that the pressure of the hand upon the fœtus is their only cause.

"*Pressure from the Muscles of Respiration.*—When the hand, dipped in water of a low temperature, is applied to the abdomen suddenly and unexpectedly, the sensation of cold produces a violent act of inspiration, which is thoracic in its character; for, instead of the abdominal muscles relaxing, as is usually the case when the diaphragm descends, they contract, and consequently the contents of the abdomen are firmly compressed. Cases are on record in which, from the violent contraction of the abdominal muscles, the viscera have been ruptured. It is easy, therefore, to see that the pressure upon the uterus, obtained by causing the diaphragm to descend, and the abdominal muscles to contract, may be very considerable, and it is also evident that the pressure thus caused must act more completely than that which is obtained by the hand alone. The next source of pressure is from *the uterus* itself. It is generally acknowledged that cold applied to the abdomen produces a reflex contraction of the uterus. Acting upon this principle, cold is used for the purpose of arresting 'flooding.' And cold water, injected into the vagina, is sometimes employed to bring on premature labour. Besides this, the sudden application of cold produces an emotion of surprise; and it is well known that emotions sometimes react so powerfully upon the uterus as to cause abortion. It may be stated as a fact, then, that the uterus contracts and exerts a pressure upon its contents when cold is applied to the abdomen.

"I have only now to point out how the pressure of the hand, the pressure of the muscles of respiration, and the pressure of the uterus, produce the fœtal movements.

"2nd. Pressure produces fœtal movements—

"*a.* By causing excito-motory actions in the fœtus.

"*b.* By impeding the circulation in the fœtus.

"*Excito-motory actions in the Fœtus.*—Professor Simpson has pointed out that the parts of the fœtus which lie in contact with the uterine walls, and are consequently the most liable to be irritated, viz., the sides, knees, and feet, are also the parts most susceptible to the excito-motory stimulus[a]. This curious fact is the key to most of the fœtal movements. If the hand, abdominal muscles, or uterus, press in an unusual manner upon any part of the fœtus, a reflex motor action will be produced tending to remove that pressure. This, then, is one of the ways in which the wet hand applied to the abdomen produces fœtal movements. The next, though less evident, has, I believe, considerable effect in their production, viz., *by impeding the circulation in the fœtus.* The circulation in the fœtus

[a] Obstetric Works, vol. ii. p. 116.

is impeded by the pressure upon, and the contraction of, the uterus, which, combined, not only partially close the utero-placental vessels and prevent the proper oxygenation of the blood, but also compress the placental mass and umbilical cord so as to obstruct its normal current. These two causes produce in the fœtus a partial and temporary state of asphyxia, in which condition Dr. Marshall Hall has shown that the reflex nervous system is more easily excited. This condition, therefore, favours the production of excito-motory actions in the fœtus when pressed upon from without. And, besides this, convulsive movements take place in the fœtus when in a state of asphyxia, which, when added to those whose origin is external or reflex, help materially to prove the existence of a living fœtus in the uterus.

"In conclusion, I would say that my intention has not been to overrate the value of the 'cold hand' test, but rather to prevent its falling into entire disuse. It must always be remembered that motions which sometimes take place in the stomach, bowels, abdominal walls, and uterus, may be mistaken for the movements of the fœtus; a little skill, however, will generally enable the operator to distinguish which are the true and which are the spurious."

*A new Symptom of Rupture of the Uterus.*—Dr. M'Clintock related some cases of rupture of the uterus and of the vagina, to illustrate the obscurity which may occasionally surround the diagnosis of this accident when occurring during parturition. He particularly drew attention to a symptom observed in one of the cases, which he considered might hereafter be found of value as a diagnostic of laceration of the uterus or vagina. This symptom was *an emphysematous state of the integuments covering the hypogastrium*. Its existence was detected by the stethoscope while searching for the fœtal heart. Examined for in this manner, the crepitation was loud and distinct, but to the hand it was not so obvious, except when firm pressure was made in the proper situation, then the crepitus was evident, and was recognised by Dr. G. Montgomery, and by several pupils who happened to be present at the case. The other symptoms present were of so ambiguous a kind that the possibility of rupture having taken place seemed doubtful. There was no prostration, no recession of the presenting part, and no cessation of the pains; the woman was able to be up and to walk about. Having ascertained that the emphysema had not extended downwards from the chest or neck, and that it was confined to the suprapubic and iliac regions, Dr. M'Clintock inferred that the air had obtained an entrance through some rent in the genital passages. Acting upon this conclusion, the woman was delivered by craniotomy (the fœtal heart had not been heard for two hours previously). She sank rapidly after delivery, and died in a few hours. The left broad ligament was found emphysematous, and a tear existed in the left side of the uterus at the junction of the body and cervix.

At some distance from this the peritoneum was found rent also, and a considerable quantity of blood had been effused into the abdominal cavity."

Dr. George Montgomery brought before the Society the case of Mary Doyle, aged 26, who was delivered in the Rotundo Hospital, by craniotomy, of her fourth child, a boy, on account of unequivocal signs of rupture of the uterus having taken place. She was twenty-six hours in labour, six in the second stage.

The head remained all through high above the brim; as soon as the perforator was introduced, an immense quantity of water made its escape, and the head came down at once upon the perineum, proving to us at once that it was a case of hydrocephalus. She sank rapidly, and expired about thirteen hours after delivery.

A post-mortem examination confirmed our opinion upon the subject.

Dr. George Montgomery mentioned that his reason for bringing this case before the Society was in order that he might exhibit to them the skeleton of the fœtus, and draw their attention particularly to the *frontal bone*, which in this instance was composed of a "*single piece*," and had only *one point* of ossification, directly in its centre, all the fibres radiating from it to the circumference. He remarked that in case this head had not been hydrocephalic, there would have been much difficulty experienced in detecting what the position of the head was in.

Dr. George Montgomery also alluded to a case which came under his own observation, where a suture was found existing as far as the occipital protuberance, and which gave the posterior fontanelle a diamond shape, having in front the sagittal behind this occipital, and on either side the lambdoidal suture. In this case the presentation was mistaken for a *face to pubis;* but after birth the posterior fontanelle was found as large as, if not larger than, the anterior one.

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## TRANSACTIONS OF THE BELFAST MEDICAL SOCIETY.

### SESSION 1857–58.

### June 1, 1857.

The President, Surgeon Browne, R. N., in the Chair.

The President delivered an opening Address.

Dr. Murney read the history and treatment of a case of *Popliteal Aneurism*, terminating fatally on the twenty-sixth day by rupture of the upper part of the popliteal vessel, after complete consolidation of the tumour. The following were the points of interest of the case:—

A man, twenty-five years of age, of middling stature, and of temperate habits, was admitted into the Belfast General Hospital on

the 11th of April last. He stated that of late he had been an apprentice as moulder in a foundry; was previously a soldier for two years, fifteen months of which time he spent in the Crimea during the progress of the siege of Sebastopol, when he was exposed to the severity and hardships of trench duty: although imperfectly fed and clothed, he was never on the sick list. On his return to England at the termination of the war he was sent with his regiment to Aldershot; about a month after his arrival there he had what he described as a "*weak*" or "*fainting fit;*" after the recurrence of two or three such "*fits*" he was discharged the service on a small pension. Eight weeks before admission into hospital the formation of a tumour in the left popliteal space attracted his attention; this rapidly increased in size, and ultimately became as large as a cricket-ball. The usual well-marked symptoms of aneurism were present. Examination of his chest indicated dulness over the sternum, stretching from the middle of the first bone downwards to a line corresponding to the cartilages of both fourth ribs; a coarse *bruit de soufflet* was heard over the track of the ascending aorta, becoming faint towards the apex of the heart, most intense about the junction of the first and second bones of the sternum. An anodyne draught of hyoscyamus and solution of morphia at bedtime each night, and infusion of digitalis, were ordered.

On the 13th of April Carte's compressors, one for the groin, the other for the lower part of Scarpa's region of the thigh, were applied, and the patient was instructed how to manage the instruments. On the second day after their application the impulse in the tumour was less marked; on the fifth the diminution in the force was more decided; on the twelfth the pulsations in the ham were very much lessened, in fact, not more than distinctly perceptible; at the same time the tumour was quite hard, and of its original magnitude. An œdematous condition of the foot and leg, which had existed for some time before admission, now became extremely troublesome; at first, relief was experienced from the application of a bandage, but in a little time he fancied it added to his sufferings, and requested it to be removed; afterwards a warm lotion of spirit and camphor mixture gave him some little comfort, but it also had to be abandoned. A pulsating tumour was now noticed at the upper extremity of the sternum, projecting between the origin of the sterno-mastoid muscles.

On the fifteenth day the impulse was scarcely perceptible in the popliteal region, and he stated all pulsation had ceased for about half-an-hour on the day before.

On the seventeenth day the circulation could no longer be detected.

On the twenty-first day of treatment several bullæ, which had formed upon the instep, different parts of the leg, and popliteal region, burst, and a large quantity of serum tinged with blood passed from the limb; more or less continued to ooze from various points for the next six days.

On the evening of the twenty-seventh day the case terminated fatally, with extreme rapidity, in the following manner:—During the evening he had been restless and fretful; after remaining perfectly quiet for a short time he screamed for the nurse, who ran to his assistance and found his bed deluged in blood; the house surgeon was instantly called, and although not more than two minutes could have elapsed from the first call of the patient until he was by his side, the man gave merely a few long-drawn inspirations, and ceased to live. When the body was being removed to the dead-house, a large clot (which was shown to the Society) was observed hanging loosely from a jagged, irregular cavity in the ham; it was seven ounces in weight, and of firm consistence; the lower part of the popliteal artery could not be traced in it, but at its upper or proximal end a portion of the vessel, about an inch and a half long, was found; this piece of tube terminated in a cæcal extremity below; its upper margin was sharp and well defined, as if cut with a knife. Unfortunately, the friends of the deceased would not permit the slightest examination of the body. It was evident, however, from the atheromatous condition of the artery, that death had been caused by rupture of the diseased coats above the site of the aneurismal tumour, and that the extravasated blood had dissected the hardened mass which constituted the clot.

Dr. Murney had no doubt that a post-mortem examination would have shown an aneurism involving the arch of the aorta, and also an extensive amount of disease of the arterial coats in different parts of the body. From the first he looked upon the case as unfavourable; from the magnitude of the tumour after an existence of eight weeks; from the occurrence of the disease at the early age of the patient, viz., 25; and from the presence of disease in the trunk as well as in the extremity.

### July 6, 1857.

The President in the Chair.

Mr. Browne, R. N., read the following case of *Melanosis Oculi:*—

"Before proceeding to detail the case of melanosis oculi which I am this evening to lay before the Society, I beg leave to make some observations upon the nature of the disease under consideration. There cannot be a question but that melanosis is closely allied, in some respects, to tubercular and cancerous deposits, or growths if you will, bearing some resemblance to both; like tubercle, it has not any trace of organization within itself which the cancerous growths have, but, like all of these, the deposit of which it consists, once commenced, goes on to invade and destroy the organization with which it is in contact, finally leaving a mere inorganic or foreign mass in the place of the vital structures which it had caused to disappear. Like these diseases, also, it is not a merely local morbid action, but depends upon a vitiated state of the system, the nature of which and the cause we do not comprehend. There is no appre-

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ciable sign by which the advent of such a development can be prognosticated, nor do we know what is really the first step in this fatal deterioration of the frame; hence in these so-called malignant affections we cannot adopt any means to prevent their origin and consequent progress. It must also be admitted by every one, that in all of these diseases, whether the system be or be not in the first instance affected, it very soon participates in the morbid action, and then the disease, no matter under what aspect or name, is no longer a local malady and removable. From this observation it will be seen that I consider these affections, or some of them, removable. I certainly do,—my own belief being that in all cancerous and analogous growths, regarded as malignant, the system has, in some way, imbibed the cause of diseased action, and has deposited in one or several localities the product; where it becomes the radicle of local morbid growth, where it increases, from day to day, superseding the normal structures, and from whence, after a time, germs of the same deposit are taken into the system,—so largely impregnating it, that no sooner is the local affection, the morbid depository, as it were, cut off, than the system takes steps once more to throw off the incompatible element, and forms a new deposit, from whence new germs spring, enter the system, and finally, so largely charge it with the morbific matter, that almost every organ becomes the recipient of this destructive product, and hence the disease is necessarily irremediable and fatal. I believe, also, that in the very early stage of many of these growths, before the taint has been re-absorbed into the circulation, that the disease can be removed; that hence we have many cases of complete recovery after the excision of undoubted cancerous and analogous deposits. Now I consider that melanosis peculiarly illustrates the two positions I have assumed. It is an inorganic matter imbibed into the system, in some peculiar way, is deposited in some locality, very frequently in the eye, grows there, and not only destroys the sound structures among which it has been thrown, but, after a time, affords those germs which largely enter the system, the circulation, and, being incompatible elements, must be got rid of: hence they are deposited in several of the organs of the body—the eye, skin, and liver, being those in which, from some cause not to be defined, the deposit most usually takes place. Very early removal of the eye, when the disease has been developed there, has frequently preserved the constitution from contamination, and consequently has saved life; while late extirpation of the organ has nearly always been followed by an outbreak of the disease in several localities. Hence I feel satisfied that, whenever we are certain that melanosis has attacked the eye, for instance, the diseased part should be immediately removed; and I think the same remark may be properly applied to the cancerous and medullary forms of disease also, especially when the eye is the affected part. Melanosis, however, affords, I consider, the best hopes, because the disease is at first confined to the choroid coat, and does not affect the surrounding parts until the growth has made its exit by the ulcerative destruction of

the cornea or sclerotic. It is true, it is occasionally seen to commence in the conjunctiva: that species of melanosis I am led to regard as not of the so-called malignant character. Now, true cancer or carcinoma always attacks the conjunctiva first, and very soon implicates the adjoining tissues both of the eye and orbit, and hence can scarcely be all removed by the knife. Medullary cancer—fungus hematodes of the eye—is usually found to begin in the retina, at the terminal portion of the optic nerve. Thence the disease spreads out into the globe, and probably, at same time, it extends back towards the brain in the structure of the optic nerve, rendering any operative proceeding more than doubtful as to its results. I have had some personal experience of each of these affections, and the sentiments I have just expressed are founded upon that experience. With regard to melanosis oculi I can refer to three cases: the first was in a servant who lived with a gentleman in Belfast some twelve years ago, and was under the care of the late Dr. Saunders; that gentleman advised early extirpation of the eye, in which view I fully concurred; but, unfortunately, the patient would not consent until the disease had greatly advanced. When the ulcerative process had gone on to destroy the cornea, a large black fungus protruded, and soon after, from the irritation, the patient's health began to fail. Then, and not till then, when her chances of recovery were very greatly lessened, would she be persuaded to part with an organ that had long been quite useless. At length the operation of extirpation of the eyeball and contents of orbit was performed by Dr. Saunders; all went on well for about a week, when erysipelas attacked the face, and the patient sank under the attack. Dissection showed that the disease had become developed in the liver and the kidneys the result, according to my theory, of the delay of the operation, until the system had been deeply tainted by the entry into the circulation of the deleterious element.

"The next case was one of my own: the patient was a man aged 57, who came to me from the country for advice in the year 1851. At that time he had lost the sight of his right eye for more than two years. When he applied he had an enlargement of the globe, with the cornea pushed forward, and the iris and lens lying close behind it; while the entire anterior portion of the sclerotica presented a dark bistre hue, and was nodulated; the diagnosis was very easily made, and I advised immediate extirpation. This the poor man would not consent to, especially as he was not suffering much pain. He returned home, and I did not see him for some nine or ten months, when he again presented himself: the disease in the meantime had greatly increased, the cornea had given way, and the front part of the globe presented a large dark fungous-like growth, but which was not vascular; the globe was also enlarged, and the patient had constant severe pain in the eye, along with excruciating headach. His general health had also considerably declined; he was then willing to submit to any steps that would likely relieve the pain he always had to endure. I then pointed out to him the folly of having

delayed compliance with my former advice, and the great uncertainty, in the then existing state of the disease, of a successful issue. However, he became most anxious to be relieved from the torture he had to endure, and entreated me to operate. I accordingly extirpated the eye and its appendages, being obliged to clear out the entire orbit, as I found traces of the melanotic deposit as I proceeded. The day after the operation he felt pretty well, and for about a week continued to improve, the headach having completely subsided; but on the eighth day signs of erysipelas manifested themselves, and soon spread over the entire head and face, the periorbital periosteum being also attacked. On the twelfth day he became comatose, and sank during that night. I was not allowed any post-mortem examination.

"I now come to relate a more satisfactory case, at least as to its immediate results. Early in the month of October last I was consulted by Miss B., aged 19, a native of England, regarding disease of the left eye, with loss of vision. She complained of deep-seated pain in the eye and brow of same side, with severe headach, especially over the parieto-occipital region. On examining the eye I observed the conjunctiva considerably congested, and large tortuous vessels, filled with dark-coloured blood, scattered through it. The sclerotic also presented a deep bluish tint, especially over the attachment of the ciliary body. The cornea was quite clear, the pupil slightly dilated, and acting rather slowly under the stimulus of light. When I had dilated the pupil by means of atropia, I observed that the front part of the lens was clear, but that either in its structure, or immediately behind it, there was a discoloration resembling that which is presented by the buff upon recently coagulated blood. On inquiring the history of the complaint, I found that my patient had first noticed some dimness of vision about the month of May, 1855; this being the only symptom present; in the June of 1856 she consulted Mr. Middlemore, of Birmingham, a distinguished ophthalmic surgeon, who at once told the patient that the eye was lost for the purposes of vision, and stated to her father that he feared it might be serious: from this I am led to infer that he suspected some development of medullary disease, or of melanosis. Upon summing up all the evidence I had before me, and duly estimating the features the case then presented, I arrived at a like conclusion. However, as there still existed a doubt, I felt disposed only to palliate symptoms by the use of sedatives externally and also internally; I also prescribed alteratives for my patient.

"During the last winter and spring I occasionally saw the young lady, the disease seemingly making little progress. From February till June I did not see her. On the 19th of that month she came to me, stating that lately she had suffered more severely from headach than ever, and could not obtain any rest. On then examining the eye I observed a very marked change in its aspect: the globe had become enlarged, especially in its antero-posterior diameter, being much elongated; the iris, with the pupil greatly di-

lated, and the lens being thrust against the back surface of the cornea; the sclerotic over the ciliary body was very dark-coloured and nodulated from the unequal thinning which had taken place, and the entire globe presenting a very serious-looking condition. I had then little doubt that the case was one of melanotic deposit within the eye, and that the sooner the organ was removed the better. I determined, however, to proceed cautiously, and explained to her father the nature of the disease I suspected, and that while a simple operation, removal of the cornea and lens, might suffice, it was more probable I should, for the patient's safety, have to take away the entire eye. The matter having then been fully laid before the young lady herself—a girl possessing uncommon resolution and strength—she at once determined to submit to any means for her relief from pain, and as she felt convinced that the vision of the eye was long since extinguished beyond any hope of restoration, she did not care much what was to be done. Having prepared my patient by the exhibition of some aperient medicine, and light diet, for three days, on Monday, the 22nd of June, I proceeded to operate, being kindly assisted by Dr. Halliday and Mr. M'Fall, the House Surgeon, General Hospital, in the manner I shall now describe. The patient was extended on a sofa before a good light, her head being well raised upon cushions; I then put her profoundly under the influence of chloroform. The first step in the operation was to make a section of the cornea, and to extract the lens; this having been done, we examined the interior of the eye by raising up the corneal flap, when it became evident that a dark abnormal mass occupied apparently the space behind that from which the lens had been removed. I then passed a curved needle with a strong ligature through the front part of the sclerotic, from without inwards, immediately behind the part which was enlarged and nodulated; I next excised this portion completely, which removed the iris and entire ciliary body, along with some of the sound sclerotic. Immediately there was an escape of a dirty thick fluid instead of the vitreous humour, leaving the globe empty and collapsed. Having carefully examined the part I had excised, I felt satisfied the case was one of true melanosis, and that the entire globe must be extirpated. This I did by dividing the conjunctiva with a sharp knife where it is reflected from the lid unto the eye, and then with a curved scissors dividing the muscles, vessels, and nerves, anterior to the suspensory ligament of the eye,—the fascia, which immediately surrounds the globe,—keeping close to the sclerotic in my progress. There was not much hemorrhage, except from the central artery of the retina, which bled freely after the front part of the eye had been excised and when it was emptied; but this soon ceased after the division of the optic nerve, and when I used some infusion of matico and cold water. Now it will be apparent that this operation of removing the globe of the eye and that of completely emptying the orbit are very different operations, as regards severity and the shock to the system. It will also be understood that it is only in a disease like melanosis, confined to the

inner tissues of the eye, that it is applicable, or when cancer has just begun to be developed in the front part of the organ near the sclerotic. The patient has made an excellent recovery, has been quite free from pain ever since the operation, and has good rest, and feels happy in being clear of the torment she had suffered for some time.

"On examining the eye after removal, we found, in addition to the large quantity of dark thick fluid, a considerable deposit of melanotic matter, especially in the ciliary body, towards its outer side; this was of a very dark hue, while a portion attached by a small pedicle to the choroid at its termination in the ciliary body, and of a bistre colour, had lain behind the lens, and it was this seemingly which had displaced the latter body. The choroid was thickened throughout, and darker than natural, having several small points of melænic deposit in its structure. The retina had disappeared, and, as I have mentioned, the vitreous body was disorganized, its place being occupied by a melænic fluid. The ciliary body was completely charged with the diseased structure, and the sclerotic anteriorly was thinned, and of a dirty hue. The optic nerve, when cut through, was quite sound. This concludes my observations; and I will merely add, that I have every hope my patient will remain free from the disease."

The PRESIDENT then called the attention of the Society to two specimens of *Fractured Bones* on the table, and gave the history of the cases. He said:—"The first specimen is the left tibia and fibula of C. O'N., a woman aged 40, who was admitted into hospital on the 26th of May last, having just sustained a compound fracture of both bones of the left leg, by falling from some height upon loose bricks. When admitted, the tibia protruded through a large ragged opening in the soft parts, to the extent of three inches; there was considerable hemorrhage, with great bruising of the structures along the leg; the fracture of the tibia was at its junction of the lower and middle thirds; the fibula was fractured about an inch higher up. When I first saw the patient, the morning after the accident, the limb had been put up in the many-tailed bandage, and on Liston's inclined splint. I did not then disturb the appliances; but the day after, I examined the limb, and found it greatly swollen and discoloured, the temperature, however, being quite natural; the general aspect of the parts caused me to fear that the attempt to save the limb would not be successful. Very soon, enormous suppuration took place, and several openings had to be made to give exit to the matter. At the end of a week, after a consultation, amputation was proposed to the patient; this she would not hear of; and as she was a very robust, powerful woman, the proposition was not then further pressed; and it was not till the 20th of June, when the system had considerably succumbed, that she would consent to the operation. On that day, after the patient had been brought under the full influence of chloroform, I removed the limb at the knee-joint, by making a semicircular incision across the cen-

tre of the patella, from either condyle; then, by dissecting the flap upwards, and cutting through the extensor tendons, close to the patella, the joint was laid open; the knife was then passed in behind the head of the tibia, and a good flap cut out of the calf. The operation was finished by sawing through the femur, immediately above the condyles; one vessel only, the popliteal artery, required ligature. These proceedings produced a capital stump, and the patient bore the operation very well, very little blood having been lost in the operation. The part was carefully put up with wetted straps of lint. On opening the stump on the 23rd of June, it was found that union had taken place at several points, but that the edge of the outer part of the posterior flap showed a tendency to slough; the stump was then dressed with a stimulating dressing, and warm poultices were applied three times a day; tonics and stimulants, with opium, being administered freely to the patient. During all this time the patient had improved in condition; and the slough, to the extent of two inches in depth from the outer part of the posterior flap, was thrown off; and now, the 6th of July, there is every appearance of the stump healing up rapidly."

N. B.—At a subsequent meeting of the Society the President, referring to this case, stated that the patient had done well till the 15th of July, when she became feverish and restless, with great irritability of stomach, and pain at the epigastrium; and although every likely means of relieving her were used, she sank on the 24th of July.

The body was examined twenty-four hours after death, when it was found that the liver was much enlarged and softened; the mucous membrane of the stomach, especially at the pyloric end, much congested, and having many points softened and disorganized; and that there were some adhesions among the small intestines, the result of subacute peritonitis.

The PRESIDENT next related a case of severe *Railway Injury*, and its results, as follows:—

"J. S., aged 32, a railway official, while shunting a luggage-van, lost his balance, and one of the wheels passed over the right ankle-joint. When he was brought to hospital, immediately after the receipt of the injury, on the 27th of May, he was suffering great pain, and the system was much depressed from the shock. On examining the injured part, a small lacerated wound, about one inch in length, was observed on the outer side of the os calcis, and over its anterior portion; there was already great effusion around the joint, imparting a soft, puffy feel, and motion of the part imparted the sensation as if the calcis and astragalus were comminuted; I may remark also that there was smart hemorrhage. I was quite aware that railway injuries, like cannon-shot wounds, may completely smash the bones, and destroy the muscular tissue, without making any great wound of the integument; hence I felt satisfied that, in the then present instance, the structure of the ankle-joint was injured beyond the hope of cure, although the wound of the

soft parts was so inconsiderable; consequently, I at once expressed my conviction to the patient that his only safe course was to submit to have the part removed at the joint, intending to perform Syme's operation; but he would not submit, and no reasoning could convince him of the risk he ran by persisting in his opposition. After some days, profuse suppuration ensued, the result of the very active inflammation that had taken place; still, a fortnight of great suffering was endured before the patient would submit to his now only chance for life—amputation of the limb.

"On the 10th of June, the patient being under chloroform, I removed the injured part by amputating at the middle of the tibia. The wound was put up after three or four hours; there had been very inconsiderable loss of blood; and on the third day the dressings were removed. On examination I found that union had taken place at two or three points, but that the general aspect of the stump was not satisfactory; the patient was also suffering from thirst, great heat of skin, and nervous irritation. I prescribed diaphoretics and full doses of opium; on the morning of the 14th of June the patient had several severe rigors, with an increase of all the febrile symptoms. I then directed for him wine and brandy, beef-tea, &c., and quina along with the opium every four hours. On the 15th the rigors came on three times, and the patient seemed decidedly worse; I then resolved to give him mercury, so as to rapidly affect the system, and on the 17th the system became decidedly affected by that medicine. On the 18th the mouth was pretty sore, and the rigors had not returned during the preceding twenty-four hours. For several days the effects of the mercury continued, the rigors did not return, and the general aspect of the patient was somewhat improved; the stump, in the meantime, had been suppurating pretty freely. On the 24th I found that a chill, not amounting to a rigor, had taken place during the preceding night, and a rather smart shiver that forenoon. I then directed the mercury to be resumed, at the same time continuing the support of the system, and the use of the quina and opium. On the 27th the mouth was again sore, and the shiverings did not recur; the stump had then taken on the healing process, and looked pretty well, but the thigh was considerably swollen, without the slightest sensation of pain, however, in it, unless when strong pressure was applied along its inner side, and on the 6th of July the man was convalescing very well.

"In concluding this part of the paper, I may remark that I was induced to exhibit the mercury by a belief that the rigors depended more upon a local phlebitis than on pyœmia; but whatever was the cause of these alarming symptoms, the mercury unquestionably produced a marked salutary effect."

August 3, 1857.

Dr. Heeney, Vice-President, in the Chair.

Dr. Corry read the following case of *Traumatic Tetanus:*—

"July 25th. At 11 A. M. I was called to see J. C., a man of intemperate habits, about thirty-five years old. On my arrival I found him labouring under symptoms of trismus, being unable to open his mouth to a greater extent than one-third of an inch; pulse 85; skin cool and moist; slight difficulty in deglutition. Upon inquiry I was informed that about ten days previously he had sustained a slight punctured wound in his foot from a broken bottle; the injury, however, was of so trifling a character that it attracted little or no attention, and on examination the wound appeared to be in a healthy state. As his bowels were constipated, I orderd five grains of calomel, followed by a full draught of castor oil and turpentine, twenty drops of chloroform to be also administered every hour, and a liniment, composed of cantharides, camphor, and turpentine, to be applied frequently. 3 P. M. Visited him in company with Dr. Sloane; symptoms much the same; bowels had acted freely; medicine to be continued. 7 P. M. Met Drs. Wheeler and Sloane in consultation. Symptoms continued unrelieved; increased difficulty in swallowing; considerable tenesmus; pulse 90; countenance anxious. A blister to be applied over the cervical and upper dorsal vertebræ, and afterwards dressed with mercurial ointment and extract of belladonna; three drachms of mercurial ointment to be rubbed in every four hours, and a draught administered, containing forty drops of tincture of opium.

"July 26th, 10 A. M. Visited the patient, in company with Drs. Wheeler and Sloane. Trismus still continued; tenesmus relieved; pulse 95. Slept well during night; has had no tetanic spasm; deglutition still more difficult. Mercurial ointment to be continued, and another draught administered, with beef-tea, and small quantities of whiskey and water. 3 P. M. Pulse 120; very restless; mouth slightly affected by mercury; has taken little or no nourishment. Treatment to be continued. 9 P. M. No improvement; has had several slight spasms in abdominal muscles. Ordered an enema, with one drachm of tincture of opium.

"27th, 9½ A. M. Pulse 130, very small; countenance extremely anxious; voice nearly inarticulate. At 6 A. M. had a severe tetanic spasm, which lasted several minutes, since which he has been able to swallow a small quantity of lemonade through a sponge. 10 A. M. Was seized with another spasm, during which the muscles of the neck, back, and lower extremities, were violently contracted, producing opisthotonos, and the pulse ceased at the wrist, probably from muscular pressure on the arterial trunks. The inhalation of chloroform appeared to afford relief, and the attack subsided in about six minutes. He then fell into a quiet sleep, which lasted till 12 noon, when he was seized with another spasm, which terminated fatally in about five minutes."

SEPTEMBER 7, 1857.

THE PRESIDENT in the Chair.

The PRESIDENT read the following cases of *Gun-shot Wounds:*—

"The late July riots have furnished some cases of gun-shot wounds, which I feel it my duty to bring under the notice of this Society, more from the happily rare occurrence of these injuries than from any peculiar features exhibited by the cases in question. The first to which I shall call your notice is that of Adam Ward, aged 13. On the afternoon of Saturday, the 18th of July, I was sent for to see two cases of gun-shot wounds which had just been admitted into hospital. On arriving there, and on examination, I found two lads, each of whom had been shot in the left leg; one of them the boy I have just named; the other will form the subject of our next notice. Ward lay on the bed, pallid and cold from the shock which usually attends gun-shot wounds, and also from the loss of blood; the wound had been plugged and dressed before his arrival in hospital, yet still considerable hemorrhage continued. Upon removing the dressing I found in the front of the left tibia, at the middle and lower thirds junction, a large wound made by a bullet of considerable size, likely of similar dimensions to the one which I now exhibit, and which was found in the leg of the other sufferer. The tibia was completely shattered, the fibula broken, and there was considerable swelling and ecchymosis about the ankle-joint. In tracing the course of the ball I found that it had passed though the bone, and then downwards, making its exit by a flap-like opening in the pulp and integument of the heel to its inner side. On consultation it was deemed right to amputate the limb, in consequence of the great amount of smashing of the tibia, and from the probability that the fracture extended into the ankle-joint, and that the posterior tibial artery was likely wounded, as shown by the active hemorrhage, and from the course of the shot. The bone, as here exhibited, will show the amount of injury, and that there would not have been any possibility of saving the limb with so much injury of the soft parts, and a torn tibial artery. The limb was accordingly amputated six inches below the knee-joint, and the stump afterwards healed rapidly, so as to admit of the patient being discharged cured on the 12th of August.

"This case illustrates the advantage of primary over secondary amputations, when contrasted with two cases which occurred about the same time: one of crushing of the ankle-joint by a railway accident, and where the patient would not submit to the operation urged upon him until his danger became imminent, and where the operation was not performed till twelve days after the injury. This man has had many backsets, ending in extensive suppuration of the thigh, and will yet have a struggle for recovery[a]. The other case

[a] This refers to the case of J. S., read at the meeting of the Society on the 6th of July.

is that of a powerful man, suffering under compound fracture of both bones of the leg, and where the attempt was made for three weeks to save the limb; amputation then became the only chance for saving life, in consequence of the drain and the irritation that had been set up. The operation was performed, but the system did not rally; symptoms of pyœmia set in, and the patient sank in four weeks after the limb had been removed.

"This brings me to the second case. Pat Murphy, aged sixteen years, was walking in company with Ward, when he suddenly felt 'the legs knocked from under him,' and on looking up saw Ward hopping on one leg with the blood streaming from the heel of the other; singular enough, Ward, though more severely injured, did not fall when struck. Both of these lads seem to have been hit at the same instant, and I am led to believe by the same discharge, the musket having been loaded with two balls, and both distinctly stated that they heard only *one* report. On examining Murphy I found a large bullet wound in front of the left tibia, an inch higher than the wound in his comrade; on introducing the finger it passed through the front of the tibia, and discovered that the back part of the bone was pushed out against the muscles of the calf; a steel director also struck against a substance which was either a leaden body, or a piece of bone bared of its periosteum; and I may here say that it is not very easy to determine between the sensation which these substances impart. On making firm pressure at the back part of the leg a projection could be felt, which was either the ball, or the bone pushed before it. The latter was my own view, and I determined to enlarge the opening in the front of the tibia, and thus endeavour to extract the shot without making any wound through the soft parts of the calf. This I effected by dilating the wound of the integument over the front of the tibia, and then with a cutting bone forceps enlarging the lesion of the bone. After a little trouble the bullet was found lying against the posterior wall of the tibia, which it had pushed before it. The finger detected afterwards one or two spiculæ of bone, which were also removed; the wound was then plugged carefully, and the limb put upon Liston's leg splint, the part wounded being covered with a soft, warm poultice. The case has progressed very favourably; free suppuration soon set in, and shortly granulations sprang from the bottom of the wound. A few days back Dr. Murney, under whose care the case has been since the 3rd of August, removed some small portions of exfoliated bone, and the part bids fair to heal up very soon. If you will examine the ball, you will perceive that it was projected with great force, and the wonder is that it did not pass through the limb. Five years ago I had two cases of gun-shot wounds of the tibia under my care in the General Hospital, both of which were a long time in healing, probably from the fact that in both the shot passed through the bone not very far below the tubercle of the tibia. With regard to the distance at which the two boys were from the person who fired the shots, I ima-

gine they were some two hundred yards, and that the projectiles were falling when they struck the limbs.

"While we were attending to the two cases just related, a girl named Maria Tynen, aged 17, was carried into hospital, said to be shot through the head; and, certainly, her appearance indicated the receipt of a very serious injury. She was deadly pale and cold, and nearly pulseless, and throwing herself about in that restless, distressed manner that great exhaustion from loss of blood usually produces. Soon after her reception into my ward she vomited a large quantity of coagulated blood. On examining her carefully, after the exhibition of opium and stimuli had somewhat quieted her, we found that the right eye had been shot through, and that the cornea was hanging outside the eyelids, which were greatly swollen; no trace of the foreign body could be found in any direction; but as the bleeding evidently proceeded from the posterior nares, we surmised that she had probably been shot by a slug, and that it was likely lodged in some part of the spongy bone, and hence the bleeding into the pharynx. I may say that although the injury at first seemed so very serious, we soon had occasion to change our opinion, and she recovered completely, having been discharged on the 20th of August with loss of eye, but never having had a serious symptom after the first twelve hours following the wound. The foreign body was never discovered, though it will likely enough make its appearance some day. I am here reminded of a case of gun-shot wound of the neck, which occurred in the July riots of 1852, and which was under my care in the hospital. The sufferer was, as in the instance just related, a young girl: she received a bullet in the neck, which struck her two inches below the right ear; the ball then passed through the sternomastoid muscle backwards, and sloping a little downwards, making its exit at the median line. In this course it struck the transverse pieces of a cervical vertebra, which was injured, showing what a narrow escape the girl had from instant death. She recovered perfectly in less than three weeks.

The PRESIDENT also read the following case of a *large fibrous Tumour of the Neck:*—

"Mrs. A. G., aged 34, a native of the county of Down, was admitted into the General Hospital, under my care, on the 22nd of July last, for treatment of a large tumour, seated on the back part and right side of the neck. The cast exhibited shows the size which the growth presented before removal. The patient stated that about two years since, when she was in America, she first observed a small tumour, about the size of a hazel-nut; this occupied a point opposite the centre of the present growth. For more than a year the progress of the tumour was very slow, but within the last five or six months it had increased very rapidly in size. On examining its attachments, as far as practicable, it was believed to be adherent to the subjacent parts, and to pass deeply in among the muscles of the neck, particularly between the trapezius and sternomastoid of the

right side, while it extended in length from opposite the second cervical vertebra to the right acromion, and in breadth from near the median line of the neck to a point beneath the centre of the sternomastoid muscle; still there was considerable mobility in the growth, leading me to believe that after the fascia was divided the tumour could be easily turned out. On consulting with my colleagues, it was determined to remove the tumour by the knife; consequently, on the 25th of July, the patient being brought under the influence of chloroform, I proceeded to operate by making a longitudinal incision through the integument covering the central line of the growth; this incision was ten inches in length, extending from above the spinous process of the second cervical vertebra to the point of the coracoid process. I then rapidly dissected back the posterior portion of the integument; in this dissection several superficial but very large vessels were cut through, from which the blood gushed out, showing how freely the growth was supplied. After the posterior covering had been completely removed, I endeavoured to turn the tumour over from behind forwards, but from the depth to which it was found to extend, this could not be done without cutting away a part of the tumour, so as to exhibit its deep connexions; I therefore excised a large portion of it, and then succeeded in raising it partially from behind; I next turned off the integument covering the front part of the tumour, and then found that the growth passed beneath the sternomastoid, so as to encroach upon the carotid, also downwards under the clavicle, close to the subclavian, while it was likewise found to be adherent to the acromion and the acromial end of the clavicle; however, by a steady and persevering dissection I succeeded in removing the entire diseased structure, tying the several vessels which were of necessity divided in my progress. During the operation my patient became very weak and faint from the great loss of blood; besides, she was one of those large, fat women, with a feeble circulation, who bear the loss of blood so badly; this caused considerable delay, and gave us much anxiety. However, the exhibition of brandy and ammonia, and an occasional rest, during which time the wound was filled with dried sponges, brought the patient safely through, after a prolonged operation of some thirty minutes. The difficulties and danger of the operation can be easily estimated when it is stated that the tumour was firmly attached over the spinous process of the second cervical vertebra, and to the transverse processes of the fourth and fifth; to the acromion and acromial end of the clavicle; a portion of the trapezius muscle was imbedded in its structure, while it was attached, though not firmly, to the splenius capitis and the sternomastoid, and rested on the scaleni muscles. The transversalis coli and suprascapular arteries, with minor branches, were divided, and the external jugular vein was with difficulty kept out of the way of injury. As I have already stated, the hemorrhage was very free, producing considerable collapse, from which the pa-

tient, however, recovered in a few hours. On the second day after the operation the wound of the integument was found to be united, except at one point; on the third and fourth a very large discharge of sero-purulent matter took place through the ununited part, but the judicious application of compresses, and a firm bandage, produced complete union of the entire wound before the twelfth day after the operation, on which day she returned home quite well.

"I cannot close this paper without thanking my colleagues for their able assistance and counsel under the trying circumstances of the operation. I should have stated that we were obliged to suspend the exhibition of chloroform from the state of weakness into which the patient sank; and I feel very happy that no untoward result ensued in the case, as some persons would likely have placed the accident to the account of the chloroform which had been exhibited.

"My own impression, nay, conviction, is, that the chloroform had nothing to do with the faintness of my patient, but that it arose entirely from the unavoidable loss of blood. And I may also state my belief that, had not chloroform been administered, a larger loss would have occurred in the early stage of the operation, as I am satisfied that the circulation is diminished when a person is profoundly under the influence of the vapour of chloroform."

Dr. Murney read the case of Patrick M'Whinney, a labourer, aged 22, residing at Gardiner-street, Belfast, a strong, well-made man, of healthy appearance; admitted to hospital at 1 A. M., August 27th. He states that being in the country, about three miles from town, while on a scaffolding about twenty feet from the ground, he missed his footing and fell, alighting on his back on a bank of sand; was able to rise; and with the assistance of two men, who supported him, to walk to a house in the neighbourhood, where he was put to bed; this was about 1 o'clock. About 3 o'clock he began to feel pain in his neck, and a sense of numbness crept over him, beginning in his back, and extending to his lower limbs, of which he gradually lost power and sensation.

He was placed on a car about 5 P. M., and brought to his own house in town; and while on his way lost power and sensation of his upper limbs also; when brought to hospital he was utterly unable to move, and complained of severe pain about the region of the third dorsal vertebra, while being turned in bed.

No displacement could be detected, and he could move his head, but with great pain to himself. He also stated that his penis had been erect from about 4 P. M., without being aware of it; pulse 80; bowels and bladder had been emptied about an hour previous to accident; respiration 21, carried on by the abdominal muscles and diaphragm. He was ordered a grain and a half of calomel and a third of a grain of opium every hour, and to have a drachm of strong mercurial ointment rubbed into the axillæ every second hour. 10 A. M. Pulse 80; respiration 20, diaphragmatic. Cathe-

terism was used, and about a pint of urine drawn off. Bowels not acted on. Continue the mercury; an enema to be injected; it acted slightly. 12½ P. M. Pulse 83; respiration 20; skin hot and dry; bowels not acted on; no further changes. Evening. Pulse 96, full and bounding; respiration 20; skin hot and dry. Catheterism; no mercurial action. Omit opium, and continue calomel and inunction. Venesection to twelve ounces; felt easier, and dosed during the night.

28th, 10 A. M. Pulse 94, softer; respiration 20; no motion from the bowels; skin hot. Catheterism; can move his shoulders, apparently by action of the trapezii muscles only; no mercurial action. To have an enema at 5 P. M. if the bowels do not act before. The blood which was drawn the night previous buffed and cupped; complained of bed being hard; action of trapezii more marked. Evening. Pulse 96, full; respiration 21; skin hot. Enema was returned, with large quantities of flatus; bowels not acted on; no mercurial effect. Catheter passed; urine slightly ammoniacal towards the end; mercurial ointment to be rubbed into groins also.

29th. Pulse 88; skin hot and dry; tongue dry and parched; bowels very free during the night; motions involuntary; no mercurial action; catheterism. A grain of calomel and a third of a grain of opium to be taken every half-hour. Also a grain of opium to be taken immediately, and repeated every alternate hour. 6 o'clock P. M. Catheter passed at his own request; can move his shoulders and head; bowels too free; involuntary motions. 9½ P. M. Pulse 84, soft; bowels moved; respiration 21. A suppository of ten grains of mercurial ointment to be introduced.

30th. Pulse 90; skin hot and dry; respiration 20; bowels same; catheterism. No change in treatment. Evening. Pulse 88, soft; skin hot and dry; respiration 21; bowels same; no mercurial action; catheterism; *urine cold;* is wandering.

31st. 10 A. M. Pulse 77, weak; respiration 15, carried on by the action of the clavicular muscles; bowels same; no action from mercury; catheterism; when about to introduce the instrument, the urine jetted in full stream for an instant. 11¾ A. M. Pulse imperceptible; respiration 15; died at 2 P. M.

The post-mortem examination was made two hours after death. There was not any rigor mortis. In making the incisions to lay open the spinal canal several arteries were cut across, which threw out dark blood *per saltum*, in a full stream, and continued to do so, but in a less degree during the progress of the examination. When the vertebral column was laid bare it was found that the lamina of the fifth, sixth, and seventh cervical, and first dorsal vertebræ, were fractured, but not displaced, so as to cause compression. On removing the lamina of the cervical and dorsal vertebræ several clots of blood were found lying on the membranes in the lumbar, dorsal, and cervical regions, the whole being much congested. On opening the membranes clots were found upon the surface of the spinal column, while

a clot an inch in length occupied the substance of the medulla, splitting and causing softening of its structure. The head was not examined, as there had not been any cerebral affection during life.

In the discussion which ensued the President referred to a case of injury somewhat analogous to that related by Dr. Murney, and which had been under his care in hospital two years since. The patient, a strong man, aged 40, in passing through a gateway arch when seated upon a bread-cart, incautiously raised his head; in a moment he felt himself precipitated to the ground; he was slightly stunned, but almost immediately desired the persons who had come to his assistance to look after his horse, believing himself not to have sustained any serious injury. On wishing to arise, however, he discovered that he had completely lost the power of moving either his legs or arms, but still had almost complete "feeling" in all his limbs. He was admitted into hospital on the following day, twenty hours after the accident; sensation remained only in a very limited degree; the fæces were passed unconsciously, but the urine was retained, and was regularly drawn off every twelve hours by a large catheter. The breathing was entirely performed by the diaphragm, and he was teazed with the constant desire to expectorate without the power of relieving his chest. He had pain in the region of the fourth cervical vertebra, especially upon pressure being made over that region, or on any attempt at moving the head. Gradually the remaining sensation was extinguished, and he lay dead, as to motion and sensation, from below the neck. In this state he existed for four days and a half, when he died comatose, having been delirious for twelve hours previously. During the progress of the case the urine changed very much in its character, and latterly deposited phosphates very copiously. The most distressing part of his suffering arose from the inability to expectorate. Deglutition was all along perfect. The pulse never rose above 100 beats in the minute until twenty-four hours before death; and the breathing was quite quiet until within the same period of his decease, when the pulse rose to 130, 140, and 160; and the breathing was 48. It should be remarked that, as the sensation was gradually extinguished, the left side was that first paralyzed.

As a post-mortem examination could not be obtained, the exact nature of the injury could only be surmised; but it is pretty certain that motion was at once lost by the lesion of the posterior columns of the spinal cord; that sensation was lost probably through effusion having taken place, the result of inflammation, or from slow extravasation within the spinal theca from small lacerated vessels.

*On Myopathic Paralysis* (from a forthcoming work, entitled, *Clinical Observations on, and Illustrations of, Muscular Paralysis*)[a]. By Dr. Hermann Friedberg.

The paralysis of muscles is caused either by a lesion of nutrition of the muscular substance,—myopathic paralysis (*Paralysis ex alienata musculorum nutritione*), or by an affection of the nervous trunks or nervous centres,—neuropathic paralysis.

A lesion of nutrition in its substance may render the muscle incapable of obeying the influences through which the motor nerves would excite it to contraction[b]. The muscle may, in consequence of the lesion of nutrition, appear paralysed, even when the motor nerves are still capable of conducting, and, so far as they are concerned, are in a condition to convey to it in sufficient amount, the influence of the brain, as the organ of the will, as well as of the spinal marrow, as the organ of reflex and involuntary action. This species of paralysis was formerly not recognised, and is still imperfectly understood.

Because the mobility of a muscle may be destroyed through motor paralysis of nerves, the existence of a neuro-paralysis has been maintained in every instance in which, in the absence of mechanical obstructions, a muscle is incapable of contracting; and, instead of referring the loss of function to a lesion of nutrition of the muscle, a "mobility-neurosis," "trophoneurosis," or "stability-neurosis" has been assumed.

A lesion of nutrition of a muscle *may* certainly also be the consequence of nervous paralysis, caused by an affection either of the nervous centres or of the nervous trunks running between these and the muscle. In such cases we have to deal with a neuropathic paralysis. The muscle is here deprived of an essential condition of its normal nutrition, namely, the state of alternating contraction and relaxation, and may, in consequence, fall into a morbid state, giving rise to a species of *myopathia marasmodes*, as I might call it. This will the more readily happen if the vaso-motor nerves are paralyzed. The lesion of nutrition of the muscles is, it will be seen, a secondary phenomenon in neuropathic paralysis, while in myopathic paralysis it is the primary momentum. Exactly the reverse applies to the cessation of the muscular contraction; in neuropathic paralysis it is the primary, while in the myopathic affection it is a secondary phenomenon.

In choosing the name "myopathic paralysis," I comply with the

[a] Klinische Beobachtungen und Erläuterungen über Muskel-Lähmung.

[b] "*Causa enim motus muscularis tanquam duplex considerari potest, vel delata ad musculum, vel prærequisita et præexistens in musculo. Prior causa ex voluntatis imperio per nervos defertur ad musculum*, sed frustra, nisi fabrica organica ipsius musculi bona sit." Gerardi van Swieten *Commentaria in* Hermanni Boerhave *Aphorismos de cognoscendis et curandis morbis. Tomi tertii pars altera. Taurini, ex typographia regia*, 1744, iv. p. 370.

necessity which, in my opinion, exists of giving the affection in question a denomination corresponding to its nature. I believe, moreover, that the following observations will secure me against a misunderstanding in reference to this appellation.

Muscular motion is the product of two factors, namely, of the excitation of the nerves and of the capability of contraction of the muscular fibres. The muscle is shortened when the nerves convey to it their electric power, after they are placed in that condition of excitation, which, according to M. du Bois-Reymond[a], is indicated by the electro-negative variation of the current. This power, transferable to the muscle, is set free through the chemical process in the nerves, and produces in its primary bundles the change of situation of the molecules necessary for shortening[b].

If the nervous trunks or centres have lost their power of conducting, or their excitability, the muscle can only contract so far as is effected by the elasticity of its tissue. But it then obeys, not a vital action, but a physical property, in consequence of which its molecules maintain their relative position, resuming it as often as they leave it. A vital contractility of the muscle, independent of the nerves, is not admissible; at least, not a single fact exists which can be regarded as a complete proof of Haller's muscular irritability. Neither do I find any such in the result of Du Bois-Reymond's experiments, according to which "we obtain spasms by irritating the muscles themselves, long after it has became impossible to excite them through the nerves"[c]. This result is fully explained by this, that the intra-muscular nerves are capable of retaining their excitability longer than the extra-muscular, which is quite in accordance with the law laid down by Eusebio Valli (in the Letters on Animal Electricity) and Ritter (in his Contributions to a more accurate knowledge of Galvanism, and in the results of his investigations), according to which the nervous centres die before the nervous trunks, and death, in the latter, proceeds from the centre to the periphery. The most recent support appealed to by the advocates of muscular irritability is the experiment performed by M. Bernard with curare. He, as is known, slit up the skin on the back of a frog, introduced a portion of curare into the wound, and showed on the animal, which was dead in four or five minutes, that electric excitation of the nervous trunks produced no spasm, while that of the muscle gave rise to contractions. The greater weight has been laid on this cir-

[a] Untersuchungen über thierische Elektricität. Band 2. Berlin: 1849. 3 Abschnitt, cap. VII. § ix.

[b] The opinion that the molecules of the muscular tube in the condition of rest are endowed with opposite electrical states, and arranged in a peripolar system, appears to be as yet not proved. This condition seems rather to be limited to the nerves. In the latter we certainly discover, according to the investigations of the observer just mentioned, in the state of rest (excitability) an aggregation of such molecules endowed with opposite electrical conditions into a peripolar system, while in nervous excitation the dipolar arrangement or negative variation of the molecules occurs.

[c] *Loc. cit.* Bd. 2, p. 286.

cumstance, as the muscles of frogs killed by other poisons usually lose their irritability before the nervous trunks. Though the reasons are not clearly apparent why Herr Eckhardt[a] denies the force of Bernard's experiment, the existence of irritability independent of the nerves does not follow from the latter.

Herr Kölliker[b] concludes from a series of experiments instituted with curare, that this poison "affects chiefly the terminations of the nerves in the muscles"[c], and that "the nervous trunks resist the poison much longer"[d]. "The same dose (approximatively), which kills the motor ends of the nerves in from five to ten minutes, does not paralyze the tubes of the trunks until after from three and a half to four and a half hours; indeed, even when the circulation, almost undisturbed, constantly brings fresh poison to them, they do not succumb until from one to two hours after their final terminations"[e]. He suspects "that urari reaches the nerves through the blood, and as it is taken up as such into the nervous tubes it produces chemical changes in their active parts (that is, of the axis-cylinders), in consequence of which these become unfitted for the manifestation of their normal molecular movements[f]. According to his view, the arrow poison, if it did not paralyze all the motor nervous fibres in the muscles, should destroy only their final terminations, which are distinguished from the other nervous tubes by delicacy or absence of the neurolemma and more exposed axis-cylinders[g].

Herr Kölliker admits, as we see, the possibility that all intramuscular nerves may not be destroyed by the arrow poison, and he, therefore, considers that the question of muscular irritability is not decided by his experiments just alluded to. Among the conclusions he draws from the latter he says:—"The voluntary muscles continue perfectly excitable, in cases of poisoning with urari, but show a greater tendency to merely local contractions"[h]. Might we not suspect that this greater tendency to merely local contractions depends on the death of a part of the motor nerves contained in the muscular substance, and on the preservation of the rest.

From the experiments instituted with the arrow poison it would only appear that, in consequence of the action of the poison, the motor nervous trunks cease to communicate their stimulus to the muscles. When therefore the muscles, immediately excited, nevertheless contract, it is not proved that the contraction is not produced by excitation of the nerves. There is certainly nothing against the assumption that the motor branches within the muscle are still excitable, and, in this case, respond to the stimulus by shortening the muscular fibres.

Among the physiological investigations of Herr Kölliker, upon

[a] Beiträge zur Anatomie und Physiologie. 1 Heft. Giessen: 1855. Page 47.
[b] Physiologische Untersuchungen über die Wirkung einiger Gifte. Virchow's Archiv für pathologische Anatomie und Physiologie. Band 10, Heft 1 und 2.
[c] *Loc. cit.* page 16. [d] *Loc. cit.* page 53. [e] *Loc. cit*, page 54.
[f] *Loc. cit.* page 71. [g] *Loc. cit.* page 55. [h] *Loc. cit.* page 73.

the effects of some poisons, I think I ought to refer to the behaviour of the muscles towards veratria. In order, if possible, to ascertain something more precisely as to the species and mode of occurrence of muscular paralysis in consequence of this poison, Herr Kölliker poisoned frogs with urari and afterwards with veratria. He found[a] "that in frogs paralyzed with arrow poison a rapid decrease of excitability of the transversely striated muscles, including the heart and a premature rigidity, can be produced." "If we now consider," he continues, "that veratria does not alter the excitability of the nervous trunks; while, on the other hand, it is proved of the arrow poison, that it paralyzes, first of all, the terminations of the nerves within the muscles, it may be inferred as very probable that veratria is a poison which acts directly on the muscular fibres, destroys their power of contraction, and annihilates their vital properties in general, producing as a final result the rapid supervention of rigidity. The experiments with urari and those with veratria are reciprocally complementary, and certainly tend very much to show that the vital processes in the muscles are much less dependent on the nerves than many have been inclined to believe."

Neither do these experiments prove the existence of muscular irritability. Herr Kölliker says indeed[b], "there is no reason to assume that the terminations of the motor nerves within the muscles are circumstanced otherwise than the trunks;" but in reference to this point I might observe, that the contact of the blood containing veratria might paralyze the intra-muscular nerves, while the trunks still retain their conducting power. With this possibility the idea accords very well, that that contact produces a change of aggregation also in the muscular fibres, which destroys their contractility. In this sense the experiments with veratria appear so much the more important, as indicating that the paralysis may be caused as well through want of contractility of the muscular fibres as through cessation of the conducting power of the motor nerves.

The experiment, in consequence of which Herr Eckhardt declares himself an opponent of Haller's doctrine of irritability, is as follows: On the gastrocnemius muscle, separated with its nerve from the body of a frog, are laid the electrodes of a simple chain, the current of which is so modified according to the sensibility of the preparation, that closing and opening it produce a contraction not too strong, but sufficiently evident. The constant stream of a chain consisting of six or seven of Daniel's elements are now passed through a tract of nerve situated in the muscle near the point of entrance of the nerve, and in this manner the paralytic condition is transmitted to the finest ramifications of the nerve within the muscular substance. (The paralyzing stream in the nerve must be ascending.) If we now try again to stimulate the muscle through the proper chain, we shall see, provided the paralyzing chain was sufficiently strong in

[a] *Loc. cit.* Heft iii. page 265. [b] *Loc. cit.* page 270.

relation to the stimulating one, that the contractions do not occur. They reappear immediately when the paralyzing chain is opened.

The dependence of the muscles on the nerves follows also from the fact, established by Alexandrini and the Brothers Weber, that in the embryo the muscles are not formed unless the spinal nerves have been previously developed[a]. The opposite assertion of Herr Vrolik[b] has been refuted[c] by Herr Schroeder van der Kolk[d]. In a case described by Herr Barkow[e] the dependence of the development of the muscular system on the development of the nervous system, is shown in an interesting manner. In this case there were opposed to each other, on the one hand, the osseous and vascular systems, and the viscera which were more perfectly developed; on the other the greater part of the cerebro-spinal nervous system, namely, the brain and spinal marrow, and their nerves, with the exception of the three nerves of higher sense, and the voluntary muscles, of which the development was deficient. The three nerves of higher sense were in their normal condition, and the three corresponding organs presented but little deviation from their usual state. On the contrary, all the other cerebral and spinal nerves were very insignificant, or altogether absent, and all the voluntary muscles were likewise either absent, or consisted only of muscular substance interwoven with tendinous fibres or much fat. The consonance in development between nerves and muscles was decidedly manifested in the complete absence of both phrenic nerves and of the diaphragm itself.

It is established that the muscle contracts when its motor nerve is irritated, but it is by no means proved that such an effect is produced without this cause. Accordingly, the inference appears to be justified, that the vital, non-physical contraction of the muscle is elicited exclusively by excitation of the nerves. The latter is, however, only one factor of the former, and is ineffectual when the muscular fibres have lost their contractility. The latter is peculiarly inherent in the muscle, and is, even if unequally distributed, probably present throughout the whole course of its primitive bundles. These, it is well known, exhibit spots in which the networks surrounding the sarcolemma, and proceeding from the nervous anastomoses, appear to be wanting, and no free, simple, or ramifying nervous terminations are to be found. In the paper read by Herr Fick, at the third sitting of the Physiological Section of the Thirty-second Meeting of German Naturalists and Physicians at Vienna, attention was directed to the fact that the muscular bun-

[a] Compare E. M. Weber on the dependence of the origin of the animal muscles on the animal nerves. Verhandlungen der Gesellschaft der Wissenschaften zu Leipzig, 1849, Heft 3, page 136.

[b] Nederl. Lancet, 1852, page 765.

[c] Verh. der Eerste Kl. van het Nederl. Inst. 1852, page 61.

[d] See Canstatt's Jahresbericht for 1852, Bd. 2, page 19.

[e] Beiträge zur pathologischen Entwickelungsgeschichte, Gratulationsschreiben der medicinischen Facultät zu Breslau. 1854. Breslau, Hirt. page 13.

dles do not contract uniformly in all parts when their motor nerves are acted on galvanically. Perhaps the parts which are behind contraction are those in whose sarcolemma nerves are not to be found.

The contraction of the primitive muscular fibres following the nervous influence depends on the easy mobility and suitable arrangement of their molecules, as well as on their normal state of nutrition; when the latter is altered, the contractility disappears. The lesion of nutrition of the primitive muscular fibres is one element in myopathic paralysis.

From the intimate contact which exists between the muscular fibres and the nerves ramifying on them, a lesion of nutrition of the former must sooner or later be propagated to the latter. It will produce in these chemical and histological changes of the active substances, as coagulation of the albumen, saponification of the fats, breaking up of nuclei, molecular disruption, changes in the state of aggregation in general, and will so deprive the nerves within the muscle of the power of performing their physiological functions (as well as of their electrical properties). If such lesion of nutrition attain the degree at which the conservative influences are overpowered, the nerves decay, and their excitability within the muscle is destroyed. This consecutive lesion of nutrition of the intramuscular nerve is the other element in myopathic paralysis.—*Allgemeine Medicinische Central-Zeitung.* Berlin, May 30, 1857: p. 337.

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*On a Case of Manifold Neuromas, with a Remarkable Local Tendency to Relapse.* By RUD. VIRCHOW.

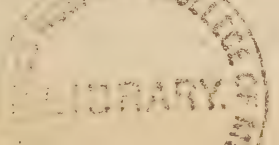
ON the 4th of May, 1857, I received from Dr. Schmidt, of Bernburg, a considerable number of particles of tumours, in reference to the source of which he sent me the following communication:—

"Enclosed I take the liberty of sending, for your kind examination, some diseased masses, which, early to-day, I extirpated, or, more correctly speaking, enucleated. Their seat was on the lower two-thirds of the flexor side of the forearm. As to the history of these peculiar tumours, it is, in the first place, remarkable, that according to the recollection of the patient, a man of sixty-one years of age, a movable tumour, of the size of a lentil, with natural integumentary coverings, formed thirty-four years ago on the flexor surface of the forearm, not far from the wrist-joint. Its growth was so slow that at the end of twenty years the tumour was about the size of a cherry. About five years ago it had attained the circumference of a middle-sized apple. The swelling, which had previously been free from pain, caused some suffering, on which account Professor Blasius, in 1852, extirpated the tumour. The healing of the wound was tedious. In fifteen months, at midsummer, 1853, a tumour formed anew in the same situation, which in the spring of 1854 had far exceeded the size of the first, was uneven, and had

become excoriated on the surface, giving rise to bleedings. Professor Blasius, therefore, had recourse again to extirpation, which was very difficult, in consequence of the secondary masses having formed firm attachments to the skin, the tendons, and even the periosteum of the radius. After this operation relapse took place very soon,—even in June the new masses were considerable in number and circumference. It was, therefore, necessary this year to have recourse again to extirpation. But scarcely had the wound caused by this operation healed, when the after-products again appeared. The fourth operation was performed by me in October, 1856, when the relation of the tumour to the tendons and periosteum was as before. A portion of the masses could be scooped out with the fingers without the knife.

"The fifth operation was, as has been mentioned, performed today. The masses were again seated partly in the areolar tissue, partly among the tendons and muscles, and partly on the periosteum. The operation was very troublesome. It strikes me as remarkable, first, that the disease returns always in the same place; secondly, that the patient has no pain in the tumours; thirdly, that sympathetic swellings have never appeared in the axilla, which would not be absent in actual schirrus."

The masses sent to me consisted of a considerable number of distinct nodules, differing extremely both in size and shape, but exhibiting the greatest similarity in appearance and structure. The entire mass of all, taken together, filled a vessel of six centimetres (2·3622 inches) in height, and about the same in breadth. Some of the smaller nodules, of 1 or 2 centimetres in diameter, were of a more globular shape, while most of the larger ones, some of which measured 3 or 4 centimetres in superficial diameter, and were from 1 to $1\frac{1}{2}$ centimetres in thickness, presented a flatter basis, while the rest of the circumference was, on the whole, semi-globular, but was lobulated with numerous projections of various sizes up to a centimetre in diameter. So far as this lobulated and globular condition extended, the surface was smooth, shining, and covered only with some loosely attached fragments of connective tissue; on the basis, on the contrary, were observed a number of firmly attached striæ of a dense fibrous tissue which, in many places, was decidedly tendinous. In no situation did any special coat exist. The colour appeared both externally and on section to be a bright reddish-grey, with a slight shade of yellow; the consistence was everywhere considerable, the appearance rather translucent. On section a dense, felt-like, fibrous interlacement, whitish and striated on longitudinal section, more uniform, and of a yellowish-red colour on transverse section, was very easily perceived with the naked eye. These fibres, for the most part, radiated in a fanlike form from a point in the outer circumference, situated rather towards the base, and were gradually lost in the homogeneous substance forming the material of the lobes; some indications of lobes were found also in the interior of the nodules. The tumour, on the whole, therefore, closely re-



sembled, on the one hand, the so-called fibroid tumours of the uterus; ou the other, the ordinary form of neuroma (steatoma of the older writers).

The microscopic examination completely supported this analogy. Thus it appeared that the internal structure was in all parts tolerably uniform. A dense fundamental substance, appearing striated on longitudinal section, from which distinct fibres were with difficulty separated, formed proportionally broad bands, ramifying in various directions and again uniting; the intervening spaces were occupied with similarly transversely intersected bands, which on the surface of section exhibited a firm homogeneous appearance. In this fundamental substance lay tolerably dense nuclei, appearing in rows on longitudinal section, separated only by rather slender intervals of substance, of an oblong staff-like form, rather slight, and on transverse section small, roundish, and somewhat granular in appearance. Acetic acid made these nuclei very distinct, and gave the entire section an appearance closely resembling that of smooth muscular parenchyma. However, muscular cells could in no manner be isolated; after separation of the fibres naked nuclei were almost solely to be seen in the fluid.

The tumour in its composition, therefore, completely resembled the formations recently described under the name of fibro-nucleated tumour. In order to establish with more certainty its internal structure, a portion was boiled for some time in a hermetically sealed glass tube, in a Papin's digester, under a pressure of three atmospheres. The fluid so obtained, when filtered, afforded with alum and tannic acid copious precipitates, soluble neither in an excess of these reagents nor in acetic acid. Acetic acid caused a strong turbidity, becoming somewhat lighter when the acid was added in excess, in which ferrocyanide of potassium produced a copious precipitate. Basic and neutral acetates of lead gave rise to decided turbidity, which almost disappeared on the addition of acetic acid. Hydrochloric acid caused a turbidity almost entirely soluble in an excess of the acid, and completely disappearing on saturation with ammonia. Corrosive sublimate produced a strong turbidity.

The residual more solid matter was very easily divided, and on microscopic examination was seen to consist entirely of fine spindle-shaped cells, in which the nuclei above mentioned were contained. When the mass was first soaked in an ammoniacal solution of carmine, and then super-saturated with acetic acid, the elements became particularly distinct, inasmuch as the cells appeared of a pale-reddish, and the nuclei of a dark-red colour. There could, therefore, be no doubt that the tumour consisted essentially of connective tissue, in which the cell-elements were most intimately connected with the scanty fundamental substance, so that in the ordinary mode of preparation only naked nuclei could be found.

Formations of this kind have hitherto occurred to me only on the nerves, and indeed most usually in larger either ganglion-like or completely tuberculated tumours, most frequently in the brachial

plexus. Little as such an idea was probable in the present case, on account of the size and frequent relapses of the tumour, the circumstance put forward by Dr. Schmidt, that notwithstanding the long duration of the affection, the axillæ had always remained free, indicates the eminently local nature of the disease. I, therefore, subjected the individual nodules with a view to this point to a more special examination, which showed that to several of them nervous filaments, very evident even to the naked eye, were attached, and were inserted exactly in the spot whence the fibrous filaments radiated into the interior of the tumour. To one of the larger nodules was attached a portion of nervous filament, recognised with certainty as such under the microscope, 12 centimetres in length, and about half a millimetre in thickness, which penetrated obliquely into the tumour. Internally I nowhere succeeded in discovering any nervous fibres; posteriorly, on the contrary, the nerves appeared to have undergone no essential change.

If, therefore, it follows with the greatest probability that the tumour in question was a manifold neuroma, characterized by an unusual tendency to relapse, the investigation at the same time again refutes the existence of the fibro-nuclear tumour so frequently spoken of of late, as it demonstrates that the apparently free nuclei were in the present case also contained in the interior of cellular elements of areolar tissue.—*Virchow's Archiv*, Bd. xii., Heft 1, 1857, page 114.

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*Rare Case of Fracture of the Sternum occurring during Labour; with Observations.* By Drs. Francesco Lucchetti and Giuseppe Posta.

Two French surgeons, Comte and Martin, in the Classical Dictionary of Medicine and Surgery, Venice[a], relate a case of transverse fracture of the sternum, which occurred in the last moments of labour in the person of Madame Pacton, aged 35, pregnant for the first time, and who died on the fourteenth day of childbed. We have had the opportunity of witnessing, though with better fortune than the French surgeons, another case of this nature which terminated in recovery, and which we publish, both on account of its singularity, and as a warning to nursetenders to be more careful in preparing the bed for their patients, as we believe that in the present instance the bad system adopted by the midwife contributed much to produce the accident in question.

Case.—Signora Maria Grossi, of Roccagulielma, in the district of Gaeta, aged 25, of a sanguineo-nervous temperament, well formed both as to the pelvis and her person generally, having arrived at the full term of her first pregnancy, began, on the morning of the first day of the present year, 1857, to feel the pains of labour, which increased gradually in frequency and intensity, until at 3 o'clock

[a] Vol. xiv. p. 70.

in the afternoon the period of expulsion had arrived. The patient, uniting her voluntary efforts to the spontaneous and natural contractions of the uterus and of the abdominal muscles, suddenly perceived a crash and intense pain in the antero-superior region of the chest, and in a few moments gave birth to a living female child.

The expulsion of the placenta was easy, and unattended with inconvenience; however, after the labour the pain in the same region increased so much that the patient's relatives were obliged to apply for medical aid.

Although fracture of the sternum is most easily diagnosed, manifesting itself, in addition to the phenomena of disturbed respiration, by signs evident to the touch, the eye, and the ear, the accident was considered to be one of simple muscular strain, was neglected for a week, and the patient was not subjected to treatment.

The symptoms of the thoracic lesion becoming threatening, Dr. Lucchetti was called in, who, arriving on the evening of the seventh day after delivery, found the patient sitting up in bed, unable to lie down either on her side or back, nor could she, without suffering, raise her arms; her face was turgid and almost livid, her tongue was red, and somewhat loaded. There was very high fever; the pulse was hard, full, frequent, and occasionally dicrotous; there was urgent thirst; the bowels were constipated; the secretion of milk was regular. Respiration was difficult and unequal, and was attended with so much pain, and such a sense of weight and oppression, as to lead to the apprehension that suffocation was imminent. The patient was tormented with a troublesome and frequent cough, every return of which renewed the sense of crashing and the intense pain in the chest, a little yellowish mucus being with difficulty expectorated. The sweat of agony appeared at uncertain intervals upon the forehead and neck, but the skin of the rest of the body was unusually dry. The seat of pain, which was precisely the middle of the upper part of the sternum, presented an elevation caused by the fracture of that part of the bone, the superior broken portion projecting, while the inferior was depressed. The shocks of the cough moved the bony fragments, and the crepitation, which is the surest indication of fracture, was audible to the bystanders; hence it was evident that the sternum had been fractured transversely in its upper part.

In the evening an emulsion of gum-arabic with syrup of digitalis was prescribed, and several leeches were applied to the affected part. These means were attended with slight and transient relief; but great advantage was obtained during the night by a copious bleeding from the arm, as, in consequence of the diminution of the cough, and the moderation of the more troublesome symptoms produced thereby, the patient was able to enjoy a few hours' sleep.

The following day Surgeon Posta being called into consultation, also recognised the fracture, which had not yet been reduced; this

was now done with the assistance of Dr. Lucchetti and a young student in medicine, Andrea Winckler, after which a suitable bandage was applied, &c.

At the end of thirty-five days we found Signora Grossi cured, a slight elevation alone remaining at the seat of fracture, produced by a strong and consolidated callus: she is now able to attend to her domestic duties.

*Observations.*—If traumatic fracture of the sternum is a rare case, it is immeasurably rare to see such an accident follow the efforts of parturition. Traumatic fracture of the sternum is the effect of the immediate action of bodies falling on this bone, breaking it, and consequently causing severe contusions of the soft parts, and usually profound disturbance of the subjacent thoracic viscera. All surgical observers have seen in fractures of the sternum extensive effusions in the mediastinum, the lungs, and the heart.

Fracture of the sternum, from whatever cause, is easily recognised, in consequence of the bone being wide, flat, tolerably long [and superficial]; its fragments are felt on very slight pressure, and the well-marked crepitus renders it impossible to doubt the nature of the accident.

In fracture of the sternum respiration is painful and difficult; troublesome cough, oppression of the chest, sanguineous expectoration, palpitation of the heart, and sometimes emphysema, are present. The patients are greatly distressed, nor can they lie on the back without producing signs of impending suffocation. Simple fractures of the sternum, such as those occurring during the pains of labour, are easily treated; the fracture being reduced, immediate local relief is obtained by covering the fractured portions with pledgets dipped in vegito-water. A two-tailed serrated bandage crossed, leaving the mammæ free, is sufficient to retain the parts *in situ*. In the case of our patient the secretion of milk continued normal up to the period of cure.

The most advantageous position in cases of fractured sternum is to remain seated in bed, the head and the thorax being elevated, and the thighs flexed, so as to avoid the inconvenient tension of the abdominal muscles, which often gives rise to displacement of the portions of bone.

Absolute rest must be enjoined, much speaking is to be prohibited, and such efforts as coughing or sneezing must be avoided as much as possible. Three cushions, one at the back and two at the sides of the thorax, will be advantageous in maintaining the patient in the proper position.

Lastly, it may be asked, how can fracture of the sternum occur during the parturient efforts?—a question, the answer to which ought to be interesting, not only to surgeons, but to all obstetricians, and especially to the numerous midwives, who are too indolent, and superstitiously place their patients in strange, disadvantageous, and injurious positions.

It cannot be denied, that during pregnancy the size of the

abdomen enormously distends all the tissues of the latter, and the muscles in general acquire a high degree of tension, as do all the abdominal muscles and those attached to the sternum; this anatomical condition may therefore become a concurrent cause of fracture of the bone in question. In fact, scarcely do the expulsive uterine efforts commence, when all the muscles are put upon the stretch, and the sternum is drawn a little downwards; consequently, if, instead of giving to the patient a position calculated rather to moderate this tension, she be placed in another likely to augment the downward traction of the bone, fracture of the latter, if it occurs, may be attributed to the faulty position in which the woman is placed.

Signora Grossi would not have suffered fracture of the sternum if the midwife had not foolishly placed her on the ground, or, at best, upon a mattress; and had she not, when the moment of parturition arrived, been raised upon her hands, made an effort with her arms, and counter-extension with the thoracic muscles, the abdominal muscles at the same time drawing the sternum forcibly downwards; the bone was thus immediately acted on by two forces, the one thoracic and superior, the other abdominal and inferior; it consequently gave way in its upper third, and a fracture was produced, which might have caused death. The only means of preventing the recurrence of such accidents is to warn the midwives, that patients ought to be delivered in bed, and, still better, in the obstetric bed; but when this is not to be had, and if it is wished at all risks to deliver in those wretched chairs, against which every surgeon ought to exclaim, it is necessary that the midwives should at least know, that in any position the legs ought to be in a state of relaxation on the thighs, and that the thorax of the patient should be a little elevated and supported by a cushion. Without such sound principles, parturient women, especially in the country, will be in one or other mode perpetually sacrificed.—*Bulletino delle Scienze Mediche di Bologna*, April 1857, p. 255.

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*Physiological and Toxicological Investigations concerning Curare.* By PROFESSOR E. PELIKAN, of St. Petersburgh.

THROUGH the intervention of my colleagues, Drs. Brandt and Zablotsky, I obtained, last spring, from MM. Claude Bernard and Lecomte, of Paris, an American poison, known under the name of curare, or woorara. The results of the experiments instituted by me on this poison differ in some measure from those of my predecessors, as will appear from the following:—

1. Brocklesby and Fontana[a] in the last century, and Emmer[b] in 1817, considered it to be ascertained that the woorara, or ticunas, which probably is identical with the curare, given internally to

[a] Felix Fontana, Abhandlung über das Viperngift, etc. Berlin: 1787, s. 289.
[b] Meckel's Deutsches Archiv für Physiologie, 1818, iv. bd., 2 heft, s. 177.

various birds, produced the same effect as when it was absorbed through the subcutaneous areolar tissue, or was introduced into a vein, with this difference only, that the poison then worked more slowly, and required to be employed in larger quantity. This fact was subsequently confirmed by Vulpian and Cogswell upon various animals. I have performed my experiments on five rabbits, two of which had been long kept without food. To each a solution of four and a half grains of curare, in half a drachm of water, was given. In those which had been previously kept without food death followed immediately; in one, after three, in the second after twelve minutes, with all the characteristic symptoms usually produced by this poison; in the former, all the symptoms of poisoning manifested themselves at the expiration of one and a half; in the second, at the end of seven minutes. The poison was introduced by means of a tube smeared with olive-oil. On dissection, the blood in all the organs was found to be fluid, and darker than usual; the stomach contained but little of the solution employed, and some remains of food. Neither the mucous membrane of the mouth, nor that of the œsophagus and stomach, as far as the pylorus, exhibited any lesion of continuity (excoriations, wounds, ulcers). Two other rabbits, which had previously been well fed, and to which the same quantity of curare had been administered in the same manner, presented totally different phenomena. In one, great weakness in the anterior and posterior extremities, tottering, &c., manifested itself after the lapse of forty-five minutes; but in two and a half hours after the poisoning the animal recovered, and on the second and third day appeared to be well. In the second, the effect of the poison showed itself in thirty-five minutes, and death ensued in two minutes after; general weakness in the limbs and hurried respiration were the only symptoms. The mucous membrane of the digestive canal had the same appearance as in the two cases above mentioned, except that the stomach was distended with a considerable quantity of green and mealy chyme. The fifth rabbit, finally, which was tolerably well fed, got a solution of a grain of curare in half a drachm of water, but even in some hours after the experiment presented nothing abnormal, and continued well also on the following day.

These experiments justify me in drawing the conclusion that curare is absorbed by the gastric mucous membrane; and that if Bernard and Pelouze maintain that this poison, taken internally, produces no effect whatever, they do so because they probably made use of very small doses, and did not take into account the state of the stomach and other conditions, which so often modify the action of poisons. Their experiments, published in their Memoir[a], establishing the non-absorption of curare through the mucous membranes, separated from the body of an animal, are consequently of little importance. It has long been known that narcotic poisons,

[a] Comptes Rendus, October, 1850.

brought directly into the circulating system, act much more quickly and more powerfully than when they are immediately introduced into the digestive canal. In this respect I must conclude from my experiments that the alcoholic extract of nux vomica is precisely analogous to the curare. One-sixth of a grain of the former, placed under the skin of rabbits, produced tetanus, and death on one occasion after five, on another after seven, but often after nine minutes; while ten grains, introduced into the stomach, likewise, it is true, produced tetanus, with all the characteristic symptoms of poisoning by strychnia, and finally death; but on one occasion not until after thirty minutes, on another not until after the lapse of an hour. One grain of this extract, passed into the stomach of a large dog, remained without effect; five grains introduced into the stomach of another large dog, after the lapse of thirty minutes produced tetanus, which returned four times: the latter dog recovered in four hours, continuing weak for some time; two days sufficed, however, for his perfect restoration. A week subsequently, one grain of this extract, placed in the subcutaneous areolar tissue of the same dog, caused slight convulsions; recovery was rapid. A fortnight later, a grain of curare introduced under the skin, gave rise merely to a slight weakness of the extremities; recovery took place in an hour and a half. A grain of extract of nux vomica was placed under the skin of another dog of middle size; it acted in seven minutes, and produced tetanus and death at the end of twenty-five minutes. One grain of curare, introduced into the subcutaneous areolar tissue of a dog of the same size, and well fed, exhibited its effect in seven and a half minutes, with all the characteristic symptoms of this poison; death ensued in ten minutes.

Similar results were afforded by experiments frequently repeated on other animals, in which I introduced extract of nux vomica, both under the skin and into the stomach.

2. My experiments instituted on animals corroborate the opinion of M. Bernard, that curare has a paralyzing effect on the motor nerves; in this respect, however, the direction of its action is diametrically opposed to that of strychnia. But I must observe, that if the nerves be irritated immediately after death, the contractions of the corresponding muscles are not always absent. These contractions M. Bernard completely denies. I have seen muscular contractions ensue during some minutes on puncturing or cutting the sciatic nerve. Thus the stimulated nerves of a horse, into one of whose jugular veins a solution of nearly four grains of curare was injected, and in which death ensued in nine minutes, were capable of producing contractions of the muscles ten minutes after death. On one occasion I produced muscular contractions fifteen minutes after death in a rabbit, under whose skin I had introduced ten grains of curare, mixed with an equal quantity of tannin, where the first effect took place in four and a half, and death ensued in ten minutes. In another experiment the muscles contracted at the end of upwards of five minutes after death in a rabbit, poisoned by a mixture of a

grain of curare, one-third of a grain of iodine, and one grain of iodide of potassium; death in this instance ensued in ten minutes. Although I succeeded in producing such contractions, I am inclined to consider them as exceptions to the general rule established by Bernard,—exceptions due to some unknown individuality of the animals, or to other causes as yet unascertained.

Bernard, and more lately Kölliker, infer from their experiments that curare produces absolutely no effect on a limb, the circulation in which does not communicate with the arterial system of the rest of the organism. They hence concluded that the paralyzing agent was transmitted from the periphery to the centre. This mode of action of curare is, as the following experiments distinctly prove, opposed to that of strychnia: in dogs and rabbits killed by poisoning with strychnia, and in which the sciatic nerve had previously been divided, I produced muscular contractions by irritating these nerves, even in twenty-five minutes after the undivided nerve had ceased to cause contractions. This shows that the paralyzing agent is transmitted from the centre to the periphery, and that the division of the nerves keeps up their irritability in animals poisoned with strychnia. In order to convince myself that the phenomena just described proceeded from strychnia, I instituted experiments on animals previously hung or killed with conia, prussic acid, or other poisons. If the duration of the muscular contractions, produced by irritation of the nerve previously divided, was occasionally different from the duration of the contraction which followed irritation of the uninjured nerves, the difference never amounted to more than one or two minutes. But when curare was employed instead of strychnia, the phenomena were exactly the reverse. In dogs and rabbits, whose sciatic nerve was merely divided on one side, the contractions ceased simultaneously on both sides, usually in from one minute to half a minute after death. The experiments quoted, therefore, confirm the opinion of Bernard and Kölliker, that the direction of the paralyzing agent created by curare is entirely opposed to the direction usually observed in paralysis. Phenomena perfectly different present themselves when the cervical portion of the sympathetic nerve on one side is divided. Thus in a rabbit in which this operation was performed previously to poisoning, I observed towards the end of the action a dilatation of the pupil and the protrusion of the eyeball from the socket; although this phenomenon manifests itself simultaneously in both eyes, it is less developed on the divided than on the uninjured side, and even some time after death a difference may be observed in the diameters of the two pupils. This takes place also through the action of strychnia: the pupil is much more powerfully dilated during the tetanus on the uninjured side than on that where the nerve has been divided.

3. Curarin, prepared by my colleague, Hr. Trapp, in the method described by MM. Boussingault and Roulin, with the simple exception that he made use also of the watery extract of this poison, was introduced in the shape of powder, to the amount of three-fourths

of a grain, under the skin of a young and rather lean rabbit. In thirteen minutes symptoms similar to those observed after the employment of curare set in; death ensued in forty minutes. The phenomena of the muscular contractions, produced by irritation of the nerves, were also identical with those caused by curare. In consequence of this fact we must doubt the assumption of those who consider that the aboriginal inhabitants of America prepared curare from various species of lianas, with an addition of the poison of serpents.

I may further add that a boiling heat does not destroy the poisonous action of curare.

4. It is difficult to find an antidote to curare when once, either injected into the veins, introduced into the stomach, or absorbed through the subcutaneous areolar tissue, it has arrived in the animal economy. Curare mixed with tannin, or with a solution of iodine in water containing iodide of potassium, also induces death. I have observed that the administration of even one grain of curare, mixed with an equal quantity of tannin, or with one-third of a grain of iodine, was followed by death, with all the characteristic symptoms of poisoning by curare; and although the muscular contractions produced by the irritation of the nerves lasted longer than when pure curare was introduced into the animal economy, I could not decide whether this proceeded from the antidote (tannin or iodine), or whether the individuality of the animals caused this difference in the phenomena.

Although after the application of a precipitate obtained by mixing a solution of tannin with a watery solution of curare (tannate of curarin), under the skin of rabbits, I could perceive no poisoning, yet antidotes in general, after curare has once produced its action, are no longer in a condition to alter the latter; even strychnia itself produces no effect when the action of curare has once been manifested.

In like manner curare cannot destroy the effect of strychnia, when the latter has begun to make itself known. After the employment of a strychnia salt with curare, I observed no compound action; but, generally speaking, the action of one predominated at one time, and that of the other at another, and this appeared to depend, first, upon the relative quantity, and secondly, upon the form in which the poison was administered; thus the poison most soluble in water, and consequently most easily absorbed, exhibited its action first. I have never seen the action of strychnia remove that of curare, and *vice versâ*, when these poisons were employed at the same time, but only in sufficient quantity, so that the views of Morgan, Harley, and others, may find their explanation in the insufficiency of the doses used by them; consequently, that curare and strychnia should mutually react on one another as antidotes in cases of poisoning, cannot, according to my experience, be admitted.

5. The presence of curare may be discovered by the reaction of curarin. The best reagents for the latter are the same as for

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strychnia; a mixture of sulphuric acid with chromate of potash, or with ferrocyanide of potassium. The smallest quantity of curarin, dissolved in a drop of water, with the addition of a little chromate of potash, or ferrocyanide of potassium, and mixed with a drop of concentrated sulphuric acid, diluted with an equal part of distilled water, produces a brown coloration, which immediately passes into a violet-red, striking to the eye. The red colour is tolerably stable, and is not readily altered, even when the mixture is slightly warmed. Hyperoxide of lead, combined with concentrated sulphuric acid, and also treatment with galvanism, are likewise good reagents for curarin. The former produces a violet colour; the latter develops a red colour at the positive pole of the galvanic pile. But if the quantity of curare is not sufficient to enable the experimenter to obtain curarin from it, he may act on a solution of curare, by which means, instead of a beautiful red, he will obtain a dirty violet.

CONCLUSIONS.

1. Curare, like the alcoholic extract of nux vomica, always produces a definite effect when it is passed into the digestive tube; but its action is then weaker, under equal conditions of the animal, than when it is introduced into a vein, or into the subcutaneous areolar tissue.

2. We have no reason to ascribe to curare a particular nature or special chemical composition (for example, the presence of serpents' poison), a belief in which led both some older (Condamini, Pau, Bankrost) and some more modern experimenters (Bernard, Pelouze, Alvaro-Reynoso, and others) to adopt the opinion, that the action of curare was of a quite peculiar kind, and that curare is not absorbed by the gastric mucous membrane.

3. Curare, as a narcotic poison, is subject to the same laws as alcoholic extract of nux vomica and other narcotic poisons; that is, the leaner any animal is, the longer it has fasted, and the more empty its stomach is, so much the stronger, more rapid, and more distinct will be the effect of the curare; opposite conditions are capable merely of weakening its action.

4. The muscular contraction produced during irritation of the nerves does not, as Bernard maintains, always cease immediately after death.

5. Bernard's statement, on the contrary, that the paralyzing action exercised by curare on the muscular nerves, and finally also on the nervous trunks, takes a direction quite opposite to the ordinary course, is capable of being completely established by experiments on animals poisoned with curare, in which the sciatic nerve was previously divided.

6. On dividing the cervical portion of the sympathetic nerve, curare seems to act more strongly on the pupil of the eye of the uninjured side than on that of the side on which the nerve has been divided.

7. The action of curarin is perfectly analogous to that of cu-

rare, and we have no reason to assume in the latter the presence of any unknown substance (poison of serpents, &c.).

8. Neither tannin, iodine, nor strychnia is capable of destroying the action of curare when it has been employed in sufficient quantity; its effect is capable merely of apparent modification.

9. Neither curare nor strychnia, administered in poisonous quantity, is capable of destroying the action of the other; and the drug, which is more easily absorbed, usually exhibits its action earlier.

10. In order to discover the presence of curare, a similar reagent must be employed for curarin as for strychnia, with the single difference, that the colouring produced by sulphuric acid with chromate of potash, ferrocyanide of potassium, or hyperoxide of lead, is more stable than that developed in the reaction on salts of strychnia: the reaction of galvanism on curarin is also the same as on strychnia.

APPENDIX.

At the time when I undertook the investigations on curare, I had before me only an extract from Professor Kölliker's treatise on this subject, which extract appeared in the November Number of the "Comptes Rendus des Séances," &c., for the past year. It was not until very lately that I obtained this distinguished observer's essay in the original, published in the tenth volume of Virchow's Archiv for September and October of last year. In this extended treatise, which contains reports of very many interesting experiments on different animals, the author describes his investigations with reference to the internal use of curare. The results at which he arrived are similar to mine. But he, as well as the other experimenters, omitted to examine the action of curarin (the alkaloid of curare), and in this manner to solve one of the most essential toxicological questions with respect to this mysterious poison, whereby my investigations are distinguished from those of Kölliker and Bernard.—*Virchow's Archiv*, Band xi., Heft 5, 1857; p. 401.

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*On Effusions of Blood in the Tissue of the Valves of the Heart.* By Professor H. Luschka, of Tübingen.

Since I have succeeded in demonstrating by injection the existence of blood-vessels, not only in the tricuspid, but also in the semilunar valves of the heart (see "Archiv für pathologische Anatomie," 1852, p. 182; and "Archiv für phys. Heilkunde," 1856, p. 536); the influence of these vessels on changes of texture in the valvular apparatus cannot be disputed. Although we have hitherto wanted anatomical demonstration of the existence of blood-vessels, especially in the semilunar valves, certain phenomena in inflammatory processes have been attributed to them, probably after the analogy of the alterations in endocarditis. As I shall on another occasion describe the lesions of nutrition of the valvular tissue which occur in con-

sequence of partial or total destruction of its blood-vessels, I shall direct my attention at present, first of all, only to the little effusions which their rupture may produce in it between the laminæ of the valves.

In the adult, ecchymoses in the tissue of the valves of the heart occur comparatively rarely. I have as yet observed them in but a few instances. In a man, aged 18, who had destroyed himself by hanging, I found in the anterior point of the tricuspid, adjoining its free edge, a small, diffused portion of blood, of irregular form, the length and breadth of which scarcely amounted to three millimetres (·11811 inch). By pricking the inner lamella of the valve I was able to obtain a quantity of blood sufficient for microscopic examination, containing the normal morphic constituents of that fluid in very great number, and still quite unchanged. In the same body I discovered very small effusions of blood in the tissue of the anterior semilunar valve of the aorta. It was in the form of distinct, very delicate striæ, running, with respect to the valves, in a vertical direction, their arrangement being probably determined by the deposition of the blood between perpendicularly placed fasciculi of fibres. In the body of a man who died of sanguineous apoplexy, I saw, adjoining the swollen edge of the left semilunar valve of the aorta, an almost circular, sharply defined ecchymosis, of the size of a grain of millet, the form of which was undoubtedly due to the effusion of the blood in roundish interspaces produced in the neighbourhood of that edge by the tissue proceeding from the annulus arteriosus. According to a communication made to me, Dr. Reuss, of Stuttgart, found in a person who died on the eleventh day of puerperal fever, with small subpleural sanguineous effusions, an ecchymosis resembling a grain of gunpowder in one of the semilunar valves of the pulmonary artery. I found a striated effusion of blood in one of the stronger tendinous fibres of the mitral valve in a woman dead of pneumonia.

Effusions of blood in the tissue of the valves of the heart occur in infants incomparably more frequently than at the other periods of life, indeed, remarkably often, and they are especially frequently met with in the tricuspid valves.

From investigations I instituted on hearts which Herr Elsässer, of Stuttgart, had the goodness to send me, it appeared that the effusions of blood in infants presented very remarkable peculiarities in situation, form, and size. They almost always adjoin the free edge both of the mitral and of the tricuspid valve, more towards the inner than the outer lamina of the point of the valve in question. It is here also accordingly that they mostly project more or less distinctly above the level of the rest of the surface, and, moreover, can be seen from the outer side of the point of the valve.

The little points of blood usually possess a roundish, often completely spherical shape, with a very sharply defined contour, and appear on valves carefully washed with water like red granules sprinkled in their tissue. Their colour changes so that they appear partly yellowish-red, partly blackish-red, and sometimes even black.

The extent of these definitely bounded effusions of blood likewise offers some variety. The smallest which have as yet come under my own observation were only 0·28 of a millimetre (·0110236 inch) in breadth, while the largest did not exceed a grain of millet in size, but most were equal in magnitude to a very small poppy-seed. If some of the larger of such ecchymoses are carefully pricked with a cataract needle, a minute drop of blood makes its appearance; in the smallest we can convince ourselves of the discharge of blood and of its quality only by opening the ecchymoses under the microscope.

The number of ecchymoses which sometimes occur in the auriculo-ventricular valves is very variable. Rarely is there but a single effusion. There are usually several, from three to four or six, not, however, uniformly distributed over the auriculo-ventricular apparatus, but unequally scattered about their points. The rule is, that they lie quite isolated; still, some are occasionally met lying so near one another as to present a certain miniature resemblance to a segment of the surface of a raspberry.

The determining cause of the form and arrangement of these effusions of blood is easily understood from the more accurate knowledge of the condition of the free edge of the auriculo-ventricular valves of new born-children, contributed by Albini ("Wochenblatt der Zeitschrift der Aerzte zu Wien," 1856, p. 405). In that situation are normally found, towards the inner side of the edge, small, roundish, purse-like projections of the inner lamina of the valve, forming little nodules filled with a soft, almost gelatinous matter, the constituents of which are recognisable as corpuscles of connective tissue, of all possible forms and modes of combination, as well as amorphous connective substance.

These nodules, while in life they are, as may be seen in freshly killed animals, colourless, are found in most dead bodies of children, more or less strongly tinged with red. The effusions of blood produced in the tissue of the valves itself, and during life, which we have been considering, are, however, to be distinguished from this imbibition as a cadaveric phenomenon. The former appear to have been quite unknown to Albini, whether he overlooked them, or, after his mode, considered them to be examples of imbibition. Independently of the fact that in an actual ecchymosis blood in its integrity can be procured from the valvular tissue, such an explanation would not be satisfactory in the case in which pale, dark-red, or black nodules occur near one another, as no reason can be discovered why all nodules under like circumstances of structure and external appearance should not exhibit a similar colour.

The effusion of blood into the interior of these nodules, however produced, exhibits so far a valuable condition, inasmuch as sometimes, with displacement of the normal tissue, almost the whole nodule is filled, and so the effusion assumes its form and size, while sometimes only a smaller section of the nodule is occupied, and then it is, of course, smaller, and does not always present the form of a nodule.

According to the period of its existence, both the mode of circumscription and the contents of the speck of blood vary, Most frequently we find the blood, as it were, encased in an envelope, which without any sharply defined boundary is continuous with the neighbouring parts. It consists, in short, of nothing else than corpuscles of connective tissue compressed by the effusion of blood, which in course of time so accumulate around the ecchymosis that they seem to form a concentrically striated capsule around it.

The contents of the ecchymoses do not always show, and this is a further proof of their occurrence in life, and of their various duration, exactly the same constituents. In very recent effusions we can discover only blood corpuscles and some fragments of tissue. In the yellowish-red coloured ecchymoses we never fail to find amber-yellow pigment molecules, blood corpuscles, and collections of fat granules in process of decomposition; in the black-coloured, probably older species, which, however, are only rarely observed, black granular pigment is undoubtedly found in greater quantity.

If what I ascertained some years ago ("Archiv für pathologische Anatomie," 1852, p. 182) be borne in mind, namely, that very many minute bloodvessels pass from the papillary muscles through the chordæ tendineæ into the tissue of the free edge of the valves, and if it be recollected how very soft the substance of this tissue is as far as it enters into the formation of the nodules, it will be easily understood why sanguineous effusions should be especially frequent in the latter.

In the semilunar valves in infants, ecchymoses are only rarely found; in other respects the latter present similar conditions of form and size to those occurring in the auriculo-ventricular valves. In the calf I very recently found a comparatively large speck on the anterior semilunar valve of the pulmonary artery, corresponding in extent to an ordinary lentil, and yielding, when pinched, a drop of fluid, dark blood. The commonly roundish form of the ecchymoses in the semilunar valves also is directly attributed to the blood being effused in roundish interspaces belonging to the tissue found between the two laminæ of the valves.

I have obtained through Dr. Reuss, very valuable contributions as to the statistics of valvular ecchymoses in infants.

In 165 dissections these occurred 41 times, and as follows :— 13 times in the tricuspid valve; 8 times in the mitral; 17 times in the tricuspid and mitral valves together; twice in the tricuspid, mitral, and semilunar valves of the pulmonary artery together; once in the mitral valve and the valves of the pulmonary artery together.

These 165 dissections were those of 128 children who had been born alive, and of 37 still-born children. The ecchymoses were found in the tissue of the valves of the heart in 31 of the children who had been born alive, and in 10 of the still-born.

According to a Report by Elsässer, on the facts observed in the Lying-in Institution of Catherine's Hospital, in 1844 ("Medic. Cor-

respondenzblatt," Bd. xiv., p. 297), extravasations of blood were found in the tissue of the mitral and tricuspid valves in more than half the dissections of children who died before the twenty-third day after birth.

I shall hold over to another opportunity the consideration of some points of casual importance, such as the influence of these effusions of blood upon subsequent alterations of the valves, and shall content myself on the present occasion with having directed attention to the subject.—*Virchow's Archiv fur pathologische Anatomie und Physiologie und für klinische Medicin*, Bd. xi. Heft 2, 1857, p. 144.

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*On a Case of two Lumbricoid Worms which had penetrated during life into the Liver, and were demonstrated by* PROFESSOR GIORGIO PELLIZZARI *to his Pupils in the School of Pathological Anatomy of Florence.* Read before the Florentine Medico-Physical Society on the 3rd May, 1857. By Dr. RAFFAELLO MATTEI, Assistant to the Professor.

THOSE who have engaged in the study of lumbricoid worms have diligently traced the several emigrations by which these parasites proceed through the natural passages of the system to a distance from their original seat. Thus writers speak of lumbricoid ascarides having reached the cæcal appendix, the stomach, the œsophagus, the pharynx, the larynx, the trachea, the bronchi, the Eustachian tubes, the nostrils, and even the frontal sinuses. They likewise quote examples of lumbricoid worms having been found in the pancreatic and biliary ducts, and in the liver. The instances, however, of lumbricoid ascarides having penetrated into the liver through the natural passages are so rare, that they are probably comprised in the following summary. Laennec, in examining the dead body of a child, whose stomach contained a great number of lumbricoid worms, observed that the tissue of the liver was eroded in various points by worms of the same species[a]. Tonnelé found in a liver three abscesses communicating with one another; in one of which a large lumbricoid worm lay coiled up[b]. Guersant mentions two lumbricoid ascarides, which, passing through the hepatic duct, had insinuated themselves into the biliary ducts[c]. W. B. Joy speaks of having seen lumbricoid worms obstruct the biliary ducts of the liver[d]. Andral narrates, in his Pathological Anatomy, that Paul Guersant showed him a liver corroded in several directions by ascarides, which seemed to have introduced themselves through the ductus choledochus[e]. Cruveilhier, in the liver of a woman who had died of latent pneumonia, found five lumbricoid ascarides, two of which filled the prime divisions of the hepatic canal, while others occupied minor subdivi-

[a] Dictionnaire des Sciences Médicales, tome ii. page 344.
[b] Quoted by Angelo Dubini.
[c] Diction. de Méd. Art. Vers. int., page 244.
[d] Enciclopedia della Med. Prat. tradotta dal Michelotti. Art. Vermi.
[e] Tome ii. page 181.

sions of the same[a]. Did I refer to the writings of the ancients, I might increase the number of cases of lumbricoid ascarides found in the liver, if they were reliable on this point. The ancients had not correct ideas concerning the fibrin, which, separating from the other elements of the blood, becomes coagulated, and the various forms which this may assume were often considered by them as so many distinct species of worms. Hence those descriptions of worms, or other animals of higher order, sometimes analogous to known beings, at others of most strange and unknown forms, found not only in the liver, but also in other viscera, and especially in the cerebral sinuses, the vessels, and the heart. Gaspare Bauino, for example, assisting at the opening of a dead body, performed by Emilio Campolongo, Professor at Pavia, saw many worms of a certain length in the intestinal branches of the vena portæ, and in those of the liver itself[b]. The simple statement of the fact shows how these two distinguished men were deceived, mistaking fibrinous coagula for worms. Similar errors, which were extremely common before the time of Morgagni, were afterwards of rare occurrence, but did not altogether cease, as even in our own day they are occasionally repeated. But although the authority of writers diminishes in proportion as time separates them from ourselves, I cannot refrain from quoting some words of Sennertus:—"Vierus," he says, "writes that his son Galen found in the dead body of a dropsical girl two worms, a span long, one of which entered the biliary duct of the duodenum, and occupied it; the other was situated in the convexity of the liver, its head being in contact with the investing membrane of the viscus"[c]. This fact, not recorded by modern writers, is worthy of mention, because the worm which penetrated into the orifice of the ductus choledochus leads us from its situation to infer its species, and, as it were, points out the route the other must have traversed to reach the convex surface of the right lobe of the liver.

These are pretty nearly the facts which science possesses relative to the penetration of lumbricoid worms into the liver through the biliary passages. Therefore it will perhaps not be wholly useless that I shall add another which I have had an opportunity of observing in the School of Pathological Anatomy. The importance of the case I am about to describe is not, however, limited to this; for I hope to show that it may have in itself sufficient value to solve a

[a] Diction. de Méd. et Chir. prat., Art. Entoz, page 340. The Vice-President of the Medico-Physical Society, Dr. Barellai, at the same meeting read a note from Dr. Tenderini, of Carrara, in which this physician said that in dissecting, in 1852, the body of a woman, who had died in consequence of a wound on the forehead, attended with fracture of the frontal bone, and followed by inflammation and suppuration of the brain, he met in one of the biliary ducts of the liver a lumbricoid ascaris of thirteen centimetres (a little more than five inches) in length. Dr. Tenderini stated, moreover, that the liver was somewhat increased in size, and was softened throughout, and that the visceral peritoneum, and especially that of the small intestines, was inflamed.

[b] Sennerti Opera Omnia, lib. iii. part vi. sec. i. cap. vi.

[c] *Op. cit., loc. cit.*

question agitated in science. In this second point of view it will deserve, if I am not mistaken, to be considered by you, and thus my communication will fortunately attract that attention which I could not have hoped otherwise to procure for it.

I shall first speak of the disease which caused the death of the individual in whose liver we found the lumbricoid ascarides, and then of the necroscopic results, and their signification.

Vincenzo, aged 40, married, a shoemaker by trade, was, on the 14th of February, 1857, admitted into the Spedale di Santa Maria Nuova. Scarcely had he been admitted when he was attacked with a convulsive fit, supposed to be epileptic. The state of the patient when placed under Dr. Gonnelli's care was as follows:—He was sunk in profound stupor, had the appearance of a man labouring under severe illness, and was extremely emaciated. If questioned, he replied in words bearing no relation to the inquiry. He refused all nourishment, whether solid or fluid, and if by chance he consented to take something, it seemed as if a spasm of the pharynx prevented deglutition. His pulse was small, unsteady, and low. Examination of the thoracic and abdominal cavities revealed no sign of any lesion of the viscera contained therein. Determination to the meninges or cerebrum was diagnosed, and cupping to the nape of the neck and sinapisms to the extremities were prescribed. A stimulating mixture was given to produce reaction. Blisters were subsequently applied to the nape of the neck and to the calves of the legs. The patient persisted in refusing any internal remedy or drink, with the exception of some spirit and water prescribed in order to remove the extreme depression in which he lay. Clysters of broth and of cordials were administered. On the 20th he showed some sign of improvement; but this was only transient, for he soon fell into a worse state than before, and died on the 25th of February.

The foregoing report is necessarily imperfect, as the patient gave no account of himself, and Dr. Gonnelli was unable to obtain, from any other source, the previous history of the case. He knew only that the disease had run a course of several days before he saw the patient, and that the latter, before and during the attack, had suffered from the most profound anguish of mind.

I shall now detail the result of the autopsy.

The vessels of the membranes of the brain presented a considerable degree of sanguineous engorgement. The arachnoid cavity contained about four drachms of limpid serum; two drachms of serum of similar quality were enclosed within the lateral ventricles. The entire cerebral substance was rather highly injected with blood. The superior lobes of both lungs were in a state of superficial lobular emphysema; the lower lobe of the right in its anterior half presented simple sanguineous engorgement, in its posterior portion there was incipient gray hepatization; the lower lobe of the left lung was throughout affected with hepatization in the same degree. The pericardium contained about four drachms of clear and yellowish serum. In the right auricle of the heart was a polypiform concre-

tion, which penetrated into the corresponding ventricle, and thence into the pulmonary artery. The stomach contained eight and the duodenum five lumbricoid worms. In the ileum were fifty-eight worms of the same kind. Four lumbricoid ascarides were also found in the second half of the large intestine. On the mucous membrane of the intestines were here and there scattered slight vascular networks. The mucous membrane of the cæcum was strongly injected with blood. The spleen and kidneys were in a state of sanguineous congestion.

The convex surface of the right lobe of the liver presented at its most prominent part an oval whitish space, of about 3 centimetres (1·1811 inches) in length, and 1 in breadth, its greater diameter passing from right to left. At this point of the surface of the liver appeared in addition small cavities, resembling imperfectly distended cysts. A longitudinal incision made in the whitish space brought to light, to our surprise, a worm, easily recognised as a lumbricoid. Supposing that another worm might be found in the parenchyma of the liver, we felt the surface of the viscus, and at the left side of the convex aspect of the right lobe we thought we perceived through the tissue the cylindrical form of a lumbricoid. On dividing the part, we discovered an ascaris of the same kind as the first.

The first worm found in the right lobe of the liver was knotted in its middle, and was completely twisted on itself; the other was twisted throughout a great part of its body, and had one extremity buried in the substance of the organ. The two cavities in which the worms were enclosed contained a small quantity of granular liquid, of a yellowish-white colour, inclining to reddish. Microscopic examination of this fluid revealed globules of pus, cylindrical epithelial cells, and eggs of lumbricoid ascarides, in great number. The latter were met, however, only in the fluid in which the second worm was found. The capacity of the two cavities containing the worms was little more than equal to the volume of the latter. The right cavity was so superficial that its upper wall was at one point formed merely by the capsule of Glisson and the surrounding peritoneum: so that the lumbricoid in this cavity brought to mind that of the son of Vierus, the head of which, according to the expression of Sennertus, was in contact with the investing membrane of the viscus. The surfaces of the two cavities were lined with layers of coagulated fibrin; the hepatic parenchyma within this was reddened with vascular sanguineous congestion, and was rendered more compact and harder through transudation of plastic matter. In a word, the parenchyma of the liver, forming the walls of the two cavities, presented the character of chronic inflammation. As such pathological changes were evidently due to the presence of the lumbricoid worms, it was immediately inferred that these had existed in the liver long before the death of the patient. The importance of this conclusion will hereafter appear. If, however, the pathological changes of the liver led to such a conclusion, they re-

vealed nothing as to the origin of the lumbricoid worms, which, consequently, remained a problem to be solved.

On this subject Professor Pellizzari observed, in lecturing on the case to his pupils, that several hypotheses might be formed. Either the two lumbricoid worms reached the liver from the small intestine passing through the biliary ducts, or they were developed in the liver itself. The latter hypothesis, again, divides into two,—the one referring to spontaneous generation (eterogenesi), the other to the transport of the eggs of lumbricoid worms absorbed in the intestines, either by the ultimate ramifications of the vena portæ, or by the ductus choledochus. Professor Pellizzari, however, adopted the former hypothesis, notwithstanding Cruveilhier's statement that the introduction of lumbricoid ascarides into the biliary passages through the orifice of the choledochus is possible only after death, or during the agony. Being, however, dissatisfied with advancing a simple hypothesis, he undertook the following experiment, to give it the force of a demonstrated fact.

He first of all prepared the hepatic duct, its prime ramifications, and the sinus of the vena portæ, in order to see which of these vessels communicated with the cavities containing the lumbricoid worms. Then he filled with water the cavity situated in the left part of the right lobe of the liver, hoping that this fluid would indicate the course taken by the worm in its passage into the substance of the liver. The water in this experiment did not, however, undergo any depression of level, whence it was inferred that the hepatic duct traversed by the animalcule was either obliterated or still obstructed by the worm, and that other expedients should be resorted to. He then brought the extremity of a fine elastic syringe along that portion of the worm which was still concealed, and by a manœuvre insinuated it between the worm and the substance of the liver. On then injecting water, the latter was observed to appear immediately in the hepatic duct. In this manner the presumption became greater, but was much increased when, on taking the worm from its cavity, the portion of it which had remained hidden was observed to be tinged yellow with the bile. On examining the animal it was seen that the portion tinged yellow was the caudal extremity, fully in accordance with the idea Professor Pellizzari had formed as to its origin. Although these facts had no need of support, the Professor wished to corroborate them by two other experiments. He filled the cavity with water as in the first experiment, but on this occasion we observed the fluid gradually diminish, and appear at the hepatic duct; lastly, as if by way of checking his experiment, he injected a column of water by means of an elastic syringe into the hepatic duct, and the fluid was immediately discharged into the cavity, and exactly at the point whence the tail of the worm was drawn.

It was not possible to perform a similar series of experiments in reference to the cavity containing the first worm, in consequence of

the horizontal incision which had been made into it before the worm was discovered. I think, however, that every one will admit that all the inferences deduced from the experiments instituted on the first cavity are also applicable to the second, and to the worm it contained. Lastly, I would observe that the presence of the cylindrical epithelial cells in the fluid bathing the two lumbricoid worms is a fact yielding no feeble support to the conceived opinion, inasmuch as these could be derived only from the internal membrane of the biliary ducts. The fact further affords great reason to suppose that the two cavities containing the lumbricoid worms were formed by the dilatation of two biliary ducts.

From all these facts it appears to me that we may reasonably infer that the lumbricoid worms penetrated into the liver through the ductus choledochus and the hepatic duct. To this conclusion the presence of so many worms of the same species in the gastro-enteric tube affords no small sanction. I, therefore, believe that every one will concur in the opinion formed by Professor Pellizzari. Nevertheless, as dissent is not impossible, and desiring moreover to touch upon all the critical arguments advanced by the Professor, I think it well to examine what hypotheses might be brought forward in support of a different origin of the lumbricoid worms in question. And, first of all, concerning heterogenesis.

The very ancient hypothesis of spontaneous generation, according to the experiments of Redi and Vallisnieri, has steadily lost ground, since, in proportion as the study of comparative physiology has progressed, additional evidence has appeared in favour of the natural propagation of organized beings. So that, at the present day, very many naturalists reject heterogenesis for those beings also whose mode of production is unknown, and Ehrenberg admits by analogy that all infusoria multiply by natural propagation. But, although this mode of reasoning is permitted in the physical sciences, as heterogenesis has nothing in it repugnant to the mind, I think it a risk to totally reject it. But if this reservation is necessary in reference to those thousands and thousands of species of organized beings, of whose structure and functions we are ignorant, it seems to me to be reasonable not to admit equivocal generation, with respect to lumbricoid worms. Modern helminthologists not only declare that lumbricoid worms are endowed with sex, but they describe with much exactness, in the male, the double penis, the vas deferens, the spermatic vessels, and the semen; in the female, the vulva, the uterus, the oviduct, the ovary, and the ova. It further follows from their investigations that the genital apparatus of these beings is, in proportion, the most highly developed part of their body, and that thousands and thousands of ova are included within a single female. Hence, it is apparent how provident nature has been to secure the species of the lumbricoids, and, consequently, how unfounded the hypothesis is that these beings owe their existence to spontaneous generation.

I shall now speak of the hypothesis which would attribute the

occurrence of lumbricoid ascarides in the liver to the arrival in that viscus of ova from the final ramifications of the vena portæ. Against this supposition a very serious objection immediately presents itself. It is evident that if an opening should be established in the capillary bloodvessels, capable of permitting the passage of the ova of the lumbricoids, an immediate extravasation of blood would follow, constituting in itself an impediment to their introduction into the sanguineous system. Nor does it bear on the point to quote the recent experiments of Marfels[a], since the difference between the blood corpuscles and the eggs of lumbricoid worms is too great. The diameter of the globules of the blood is $0{\cdot}007^{mm}$, that of the ova of lumbricoids is $0{\cdot}090^{mm}$. The blood globules possess a very great elasticity, by means of which they can adapt their form to that of channels narrower than their own diameters, and by exosmotic actions their volume is capable of undergoing a great diminution. If it cannot be denied that such a property and such actions may belong to the eggs of lumbricoid worms, it is nevertheless certain that the latter do not possess them to the same degree as the blood corpuscles do. Finally, if the shell of these eggs be really calcareous, as Valentin believes, the change they would be capable of undergoing, either in form or volume, would of necessity be extremely limited. Hence, it is not surprising that Marfels should have placed beyond doubt the passage of blood corpuscles from the interior of the intestinal cavity into the current of the circulation, and that such a passage, on the part of the eggs of lumbricoid worms, should be regarded, if not absolutely impossible, at least as highly improbable.

Lastly, I shall say a few words in reference to the hypothesis which would refer lumbricoid worms found in the liver to eggs which have penetrated into this viscus through the biliary passages. It is evident what difficulties this hypothesis encounters. It would, in the first place, be necessary to attribute to the orifice of the ductus choledochus an absorbing power, and then to admit that the ova of lumbricoid worms which have entered the biliary passages should be capable of proceeding in a direction opposed to the column of bile ; the former of which conditions is not admitted by physiologists, while the latter is manifestly contrary to hydraulic laws.

I would advance one further reflection against all the hypotheses I have combated. It is a general law that all living beings in nature, not excluding man, feel the influence of the medium in which they are developed and live—a fact which is demonstrated by the modifications which races of animals undergo, whether in their physical constitution or in their form, in consequence of the diversity of external agents. It is a not less general law that the influence of the surrounding medium is exercised with greater force in proportion to the greater simplicity of the organization acted on. It is reasonable to admit that lumbricoid worms are subject to these

[a] Gazette Médicale, 7th March, 1857.

two laws, and that therefore they must undergo an abnormal development whenever they come into existence and grow under extraordinary influences. The worms found by us in the liver possessed their own form, and, with the exception of a slight deviation in that situated to the left, presented all the ordinary physical qualities of such animals. The worm which occupied the left side of the great lobe of the liver was 18 centimetres (7 inches) in length, the other was a little under that measurement; the first was of the female sex, the latter, of the male. Consequently in this case we also find the proportions in length between the male and female lumbricoids verified. The presence of the ova exclusively in the cavity including the female testifies that they proceeded from her, and consequently from the exercise of her normal function, as is further established by the size and shape of the eggs themselves, corresponding precisely with the descriptions of helminthologists. Now, if the laws above quoted obtain, it is evident how little support a consideration of the difference between the hepatic parenchyma and the medium in which such worms are usually produced and live, would allow to the supposition that the lumbricoids in question had been developed in the liver.

I hope I have thus fully demonstrated by every mode of argument the correctness of Professor Pellizzari's opinion, and the improbability of the hypothesis which might be started as to a different origin of the animalcules under consideration. Now, bearing in mind the conclusion deduced from the pathological alterations of the liver, and connecting therewith the inferences warranted by the experiments performed and by the foregoing critical discussion, it appears to me that we may declare solved a question which has so long agitated the cultivators of pathological anatomy. We shall, therefore, consider it established that lumbricoid worms may penetrate into the liver during life—a fact which, until the present, had not been demonstrated. As, however, some writers speak of lumbricoids in the liver in a manner calculated to make it appear that they had penetrated into that viscus during life, it is my duty to show how the facts adduced are deprived of the value attributed to them.

In tracing the history of the penetration of lumbricoid ascarides into the liver through the biliary passages, I have observed that Laennec, speaking of those found by him, says that the hepatic viscus was, as it were, *eroded* by those worms. With respect to this fact I shall quote a few critical words by Cruveilhier:—"It is to be regretted," he says, "that an able observer, like Laennec, should not have entered into fuller particularities, and, above all, that he should not have specified the alteration he wished to indicate under the metaphorical expression *eroded*"[a]. The same criticism would apply to the case reported by Andral, who speaks of a liver corroded (labouré) by lumbricoid ascarides. In fact, both writers

[a] Diction. de Méd. et Chir. prat., Art. Entoz, p. 341.

pronounce a decision without stating the facts whereon their judgment is founded. I may add, that in the case which forms the subject of this paper the liver did not present any changes suggestive of the idea of the process spoken of by Andral and Laennec, although the lumbricoid worms had evidently penetrated into the viscus during life. What shall I say, then, of Tonnelé's case of the liver which was the seat of three communicating abscesses, in one of which a lumbricoid was contained? It is manifest that he does not adduce any fact calculated to prove that the alteration of the liver was subsequent to the introduction into this viscus of the lumbricoid ascaris. On the contrary, reflecting on the plurality of the abscesses, I believe that we have reason to hold that the pathological alteration of the liver was not an effect of the presence of the worm. In Lebert's General and Special Anatomy, we read these very words:—"We have seen the lumbricoid ascaris enter the biliary ducts, and produce numerous abscesses of the liver, which have at length perforated the diaphragm and the lung, and have hastened death by producing pneumothorax"[a]. Using a favourite phrase of those whose language Lebert writes, I will say—To explain such facts is to refute them.

All the authors I have quoted have argued the introduction of lumbricoid worms into the liver during life, from the coexistence in this viscus of such worms, and of a pathological change. Guersant, who found two lumbricoid ascarides in a liver, infers such an introduction from the symptoms. I shall, in a few words, explain the facts on which he rests, and his mode of reasoning. A child labouring under slight attacks of colic was seized with convulsions, rapidly followed by death. As the convulsions had immediately succeeded the fits of colic, Guersant believed that the violent and instantaneous introduction of the two lumbricoids was the true cause of the convulsions and death. Guersant considered the absence of any apparent alteration of the nervous cavities to be a fact confirmatory of his opinion. Every one, however, knows how characteristic of the phenomena of convulsive diseases their instantaneous occurrence is, and how such attacks are more fatal in infancy than at other periods of life. The fact of the convulsions having supervened on fits of colic might have had some value if Guersant had with precision removed every other cause capable of producing both. He, for example, does not state whether or not the gastro-enteric tube contained lumbricoid ascarides which, without leaving the primæ viæ, are capable of giving rise to colic and convulsions. Neither does he mention any morbid change in the liver, and it appears unlikely that lumbricoid worms penetrating into this viscus during life should leave it in a state of integrity; consequently, this fact also is deprived of the demonstrative value attributed to it by Guersant.

What shall I say, then, of the mania, the convulsions, the jaundice,

[a] Page 392.

the hemoptysis, and other affections attributed by some writers to the presence of lumbricoid worms. With respect to this, I shall confine myself to repeating what Morgagni says in answer to another argument. This is conjecture, and not observation[a].

We may, therefore, maintain that if the cases recorded of lumbricoid worms having penetrated into the liver through the biliary passages are many, none of them is sufficient to prove that the penetration took place during the life of the individuals in whose bodies such worms have been found. When writers have sought to demonstrate this fact, deducing their arguments from the course of the disease and the nature of the morbid phenomena, they have not completely removed all the other causes to which these might be referred, and when pathological anatomy has supplied the foundation on which they depended, they have either not accurately described the morbid changes observed, or they have failed to prove that these could proceed only from the presence of the worms. In the first case it might always be reasonably doubted that the morbid phenomena and the mode of their progress have been the effects of the penetration of the lumbricoid worms into the biliary passages, or into the liver; in the second it will always be a question to be decided whether the animalcules had produced the hepatic alteration, or had penetrated into the viscus at a time when the latter already existed, Therefore, without absolutely denying that in the cases reported by authors lumbricoid worms have penetrated into the liver during life, we may declare that positive data demonstrative of such penetration are wanting. It then becomes probable that, at least in the majority of cases, the lumbricoid worms have transferred themselves into the liver after the death of the individual in whom they were found, as in the dead body they are known to emigrate from their ordinary seat. Their introduction into the biliary passages and the liver will occur more easily when they continue very lively, as in the cases spoken of by Angelo Dubini in his very beautiful Entozoografia. I may further observe that almost all writers on the subject have omitted to state whether the morbid alterations found by them in the liver were specially connected with pathological conditions of other viscera, and particularly of the gastro-enteric tube. We know in fact, that occasionally a communication is established between one viscus or another, and a morbid cavity in the liver, and that the passage of lumbricoid worms might take place through it. On this account the facts reported by authors lose not a little of their value. And here I will state that in the liver observed in the School of Pathological Anatomy no alteration existed externally to the two cavities in which the lumbricoid worms were contained, and that these did not communicate with the gastro-enteric tube, except through the natural passages.

If pathological anatomy is insufficient to establish all we demand

[a] De sedibus et causis Morborum, Epist. xxiii. 15.

of her, I ought now to compare the morbid alteration of the liver with the disease, so as to establish the true value of the change itself. The deficiency, however, in the history, our imperfect knowledge of the morbid phenomena and of their course, and the complications of the case, render almost wholly futile, in this instance, the method always followed by Professor Pellizzari in the School of Pathological Anatomy. I agree with him that on the present occasion it is not possible to form more than a feeble conjecture. May not the disproportion between the degree of congestion of the brain and its membranes, and the duration and intensity of the disturbance of the sensorial functions, lead us to suspect that a very unusual morbid element had influence upon such disturbance?

To recapitulate, I would conclude:—

1st. That instances of lumbricoid worms having penetrated into the liver through the biliary passages are extremely rare, and that, consequently, it is not wholly useless to add another.

2nd. That the arguments brought forward by authors to prove the introduction of lumbricoids into the liver during life are deprived of all value, because, if derived from the pathological changes, the latter either are not well defined, or leave it uncertain whether they were anterior or subsequent to the introduction of the worms; and if derived from symptoms, the necessary abstractions have been neglected.

3rd. That the case observed in the School of Pathological Anatomy shows plainly that the lumbricoids existed in the liver long before the death of the individual, as results from the pathological alterations of the viscus; and that they proceeded from the biliary passages (and, consequently, from the intestine) follows clearly from the experiments performed, and from the critical examination of the hypotheses which might be advanced as to a different origin.

4th. That the question of the possibility of the introduction of lumbricoid worms from the intestine into the biliary passages and into the liver during life, is definitively solved.—*Gazzetta Medica Italiana Toscana*, 16th June, 1857, p. 193.

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*Memorandum on the Use of Biniodide of Mercury, in combination with the Rays of the Sun for the Cure of Goitre.* Communicated by F. J. MOUAT, M. D., F. R. C. S., Inspector of Gaols and Dispensaries, Bengal.

IN the districts about Motiharee, Segowlee, Bethiah, Bhagoha, and on to Goruckpore, indeed along the whole line of the Teraie, the goitre is so prevalent that it can scarcely be an over-estimate to state that, in many localities, one individual in ten is afflicted with this horrible disorder.

In some cases the tumour attains a certain size, and passes into a chronic state, without serious inconvenience to the person affected;

in others, it increases rapidly, and, at the end of a few years, after becoming an enormous excrescence, terminates in loss of intellect in some cases, and in others in death.

In the cold weather of 1854–55, Captain Cunningham, second in command, 12th Irregular Cavalry, began to apply the biniodide to the goitre in the following manner:—

An ointment was prepared according to a formula, as follows:—

Melt 3 lbs. of lard or mutton suet, strain and clean; when nearly cool, add 9 drachms of biniodide of mercury, taking care to make the powder fine by trituration in a mortar.

Work in the mortar until no grains of red are apparent in the ointment, and put in pots for use, taking care always to keep both powder and ointment from the rays of light.

Use as follows:—

About an hour after sunrise apply the ointment to the goitre with a spatula made of ivory, or thin, broad, smooth bamboo, quantity according to size of tumour—rub it well in for at least ten minutes. Let the patient then sit with his goitre held well up to the sun, and let him remain so, as long as he can endure it.

It is probable that about noon he will suffer severe pain from the blistering effect of the ointment, although no pustules are raised on the skin. About 2 P. M. the ointment should again be applied with a very careful and tender hand, and the patient should be dispatched to his home, with orders not to touch the ointment on any account with the hand, but to allow it to be gradually absorbed, which absorption will be complete on the third day.

This treatment is quite sufficient for an ordinary cure. Should the case be a very bad one, the patient is ordered to return next year for the removal of what may remain of the tumour. Except in goitres of the very largest size this is seldom necessary. After the application of the second year no goitre has been known to continue.

The patients begin to come about the middle of November, and continue to the end of March; after that time the sun's rays act so violently on the medicine, that it is not advisable to apply it.

The cures effected have been very numerous. On my arrival at Segowlee, I was glad to join Captain Cunningham in this good work; but with him rests all the credit of having established it.

The cases are not now so numerous as they were in 1855. At that time 500 or 600 were not unfrequently treated in a single day; a small charge of two pice for each cure was levied for some time, in order to make the people set more value on it; but as this seemed to check some patients, it was discontinued.

Until lately no exact account of the numbers treated has been kept; but since Captain Cunningham commenced, up to the present time, it cannot have been less than 60,000. Many come from a very great distance, Goruckpore, Mozufferpore, Mulaye, but the cases in the vicinity are decidedly less numerous—in fact, the dis-

order is being extinguished. In no case, except one, have we failed to make a complete cure during the second year.

I am now on the point of departure for England, and I should be glad to think that the medicine might be continued to the people. I would propose that stations for its application should be established at Mozufferpore, at Motiharee, at Segowlee, at Bethiah, at Rutawal, or Bhogaha, at Ramnuggur, and at Goruckpore. To each station might be appointed a dresser, on rupees eight per mensem, to apply the ointment, which should be furnished monthly from a central station. It would be proper to order that the ointment be always applied in presence of the dresser. If given to be carried off, it will be sold. Nothing else on the subject strikes me at present; but cases have occurred when the patient rubbed off the medicine when the smart became severe, and therefore the patients should be kept until sunset, after the stuff has been rubbed on. Any cooly can be taught to do it: all my servants apply it, and some of the troopers; a tender hand, and gentle use of the spatula, after softening the ointment by working up, is all that is needed.

Enclosed is the list of the cases treated since the commencement of the present year by me. Captain Cunningham has treated many hundred cases in addition to these, and, as I write, patients are pouring into the compound.

Setting humanity aside, I think that, in a financial point of view, it would pay Government to get these poor people cured, for each life, or each sound man, must be worth at least one rupee per annum to the revenue.

It appears to me that the rays of the sun, either by some chemical action on the ointment, or by causing its more rapid absorption, have much to do with the cures effected; but I am about to make the experiment of treating one man by night before a large fire, and comparing the case with one of a similar size and standing, treated in the usual way.

By this means I hope to ascertain how much of the cure depends on the action of the sun's rays, whether as regards chemical properties or the absorbents of the skin.

(Signed) J. G. HOLMES, *Major,*
*Commanding at Segowlee.*

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*8th February*, 1857.

MY DEAR CUNNINGHAM,—Kindly answer the following questions:—

1. How many goitre patients did you treat in 1854, as near as you can guess, or what was the greatest number in one day?

2. Have you reason to suppose that, from increased size, the goitre in many cases proves fatal?

3. Have you seen any cases of goitre patients whose intellect was affected by the disorder?

4. In your opinion, has the biniodide of mercury in any case failed to effect a cure?

5. Have you known any instance in which danger to the patient arose from its application?

At the request of Dr. Mouat, Inspector of Prisons, I am drawing up a report on the subject, with a view to establish stations for the cure of goitre at Moteeharee, Segowlee, Govindgunge, Bettiah, Rutwal, and Goruckpore.

Yours very faithfully,
(Signed) J. G. HOLMES.

---

ANSWERS.

1st. In the cold weather of 1854-55, I must have treated, I should say, upwards of 20,000 goitre people, or rather 25,000; and in one day I have seen as many as 500 at my house, who were all treated.

The people came in such great numbers that (after giving the medicine free at first) I made each person pay two pice (Goruckporee, of which there are from 100 to 106 in the rupee), and actually collected rupees 160 in this manner. This alone proves 16,000 to have been treated, besides which all those who came back a second and third time, and very many did so, had not to pay again; besides which a great number were treated before I commenced making any charge.

So I cannot be wrong in putting down the whole number for the year at from 20,000 to 25,000.

2nd. From what the people have told me, and from the state in which I have seen some with enormous goitres (breathing with a noise like a broken-winded horse), I have reason to suppose that the increased size of the goitre does prove fatal in not a few cases; as, when so enlarged, it prevents the person afflicted with it from using any exertion, and, as I have been told, even from eating and drinking without extreme difficulty, which I can easily believe.

3rd. I have seen many cases of goitre patients whose intellect was decidedly affected by the disease, I should say, as, after the goitre was reduced, they appeared much more intelligent and like rational creatures, which they were not before. However, there are so many idiots about this part of the country only slightly affected with goitre, that it would be difficult to say whether idiotcy was actually induced by it, or the symptoms increased in those whose intellect was naturally defective.

4th. To my certain knowledge the biniodide of mercury did fail in one case to effect a cure. I applied it myself seven or eight times on one man, and was particularly careful in seeing that he did not rub it off, but it did not act upon him, which I could not account for. In old cases, where the goitre has become as hard as a stone, and about the size of a turkey's egg, I have found it fail; but when

the flesh is soft I have seen the goitre wonderfully reduced, and I have no doubt but that it would be removed altogether were the people only to continue the application, which, however, they seldom do, owing to the great pain it causes.

5th. I have never heard of any instance in which danger arose to the patient from application of the biniodide of mercury, though a man did come to me with sores on his neck, which he said had been caused by the medicine a year and a half before; but since then I have seen another man with similar sores which the doctor said were scrofulous, and he never had the biniodide applied to his neck.

*Cases of Goitre treated by me since 1st January*, 1857.

| | Cases. |
|---|---|
| January 1, 1857, . . . | 73 |
| „ 2, „ . . . | 49 |
| „ 3, „ . . . | 104 |
| „ 4, „ . . . | 58 |
| „ 5, „ . . . | 17 |
| „ 6, „ . . . | 29 |
| „ 7, „ . . . | 203 |
| „ 8, „ . . . | 156 |
| „ 9, „ . . . | 44 |
| „ 10, „ . . . | 103 |
| „ 11, „ . . . | 125 |
| „ 12, „ . . . | 246 |
| „ 13, „ . . . | 93 |
| „ 14, „ . . . | 85 |
| „ 15, „ . . . | 106 |
| „ 16, „ . . . | 74 |
| „ 17, „ 18, „ 19, Medicine not ready. | |
| *Carried forward*, . . . | 1466 |

| | Cases. |
|---|---|
| *Brought over*, . . . | 1466 |
| January 20, 1857, . . . | 140 |
| „ 21, „ . . . | 230 |
| „ 22, „ . . . | 110 |
| „ 23, „ . . . | 125 |
| „ 24, „ . . . | 172 |
| „ 25, „ . . . | 203 |
| „ 26, „ . . . | 119 |
| „ 27, „ . . . | 98 |
| „ 28, „ . . . | 74 |
| „ 29, „ . . . | 136 |
| „ 30, „ . . . | 109 |
| „ 31, „ . . . | 87 |
| February 1, „ . . . | 94 |
| „ 2, „ . . . | 103 |
| „ 3, „ . . . | 68 |
| „ 4, „ . . . | 92 |
| „ 5, „ . . . | 139 |
| „ 6, „ . . . | 122 |
| Total, . . . | 3687 |

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